NORTH CAROLINA

Medical Journal

Vol. 14 No. 7
July, 1953

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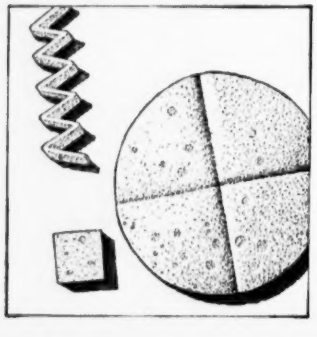

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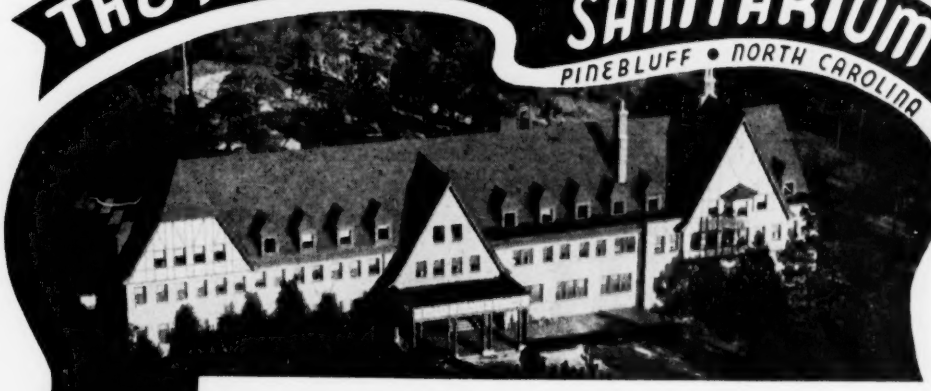

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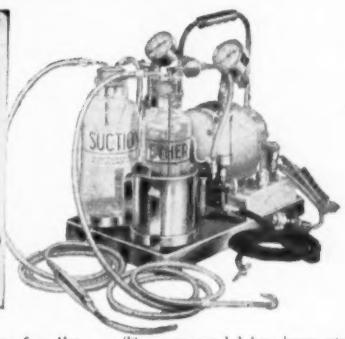

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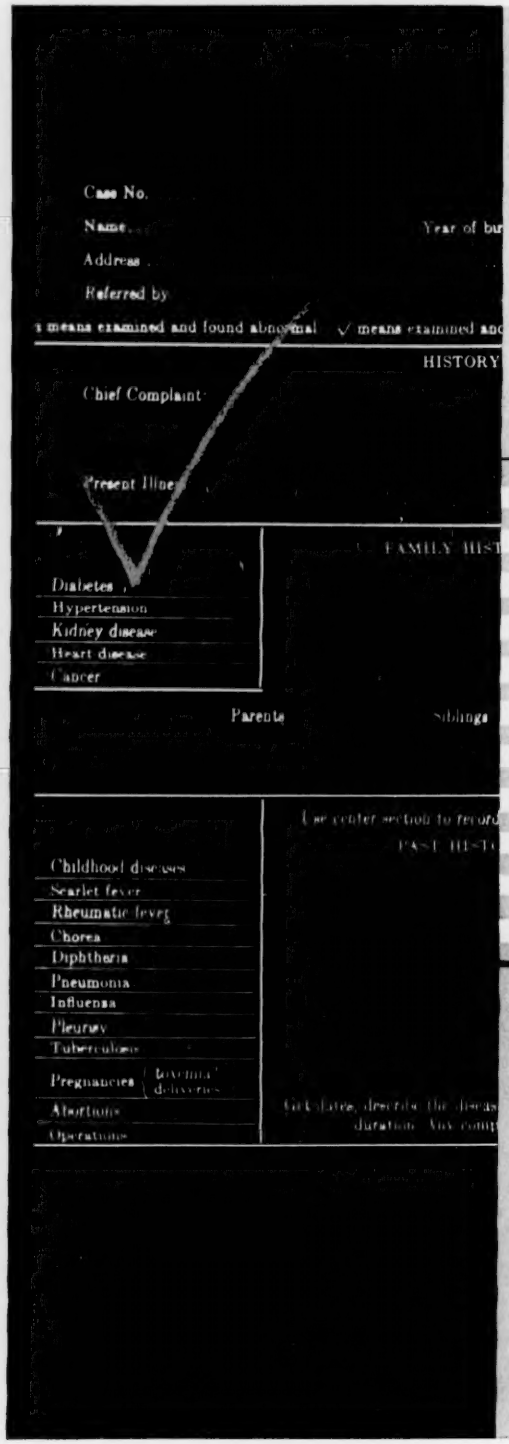

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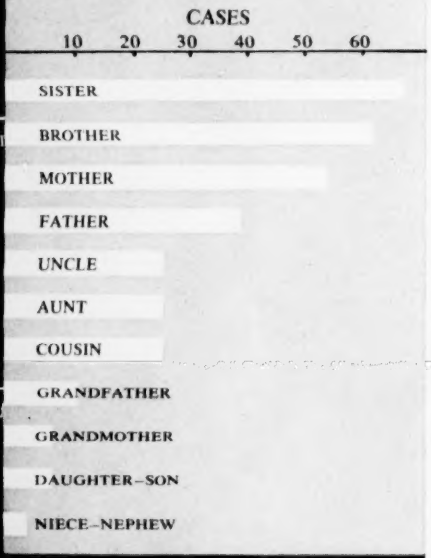

The Diabetic Relatives of 265 Diabetics[1]

In view of "...the very high incidence of...unsuspected cases among the blood relatives of diabetic patients,"[2] urine-sugar testing of all such individuals should be routine and frequent.

1. Barach, J. H.: Diabetes and Its Treatment, New York, Oxford University Press, 1949, p. 38.

2. Allen, F. M.: Diabetes Mellitus, in Piersol, G. M., and Bortz, E. L.: Cyclopedia of Medicine, Surgery, Specialties, Philadelphia, F. A. Davis Company, 1951, vol. 4, p. 505.

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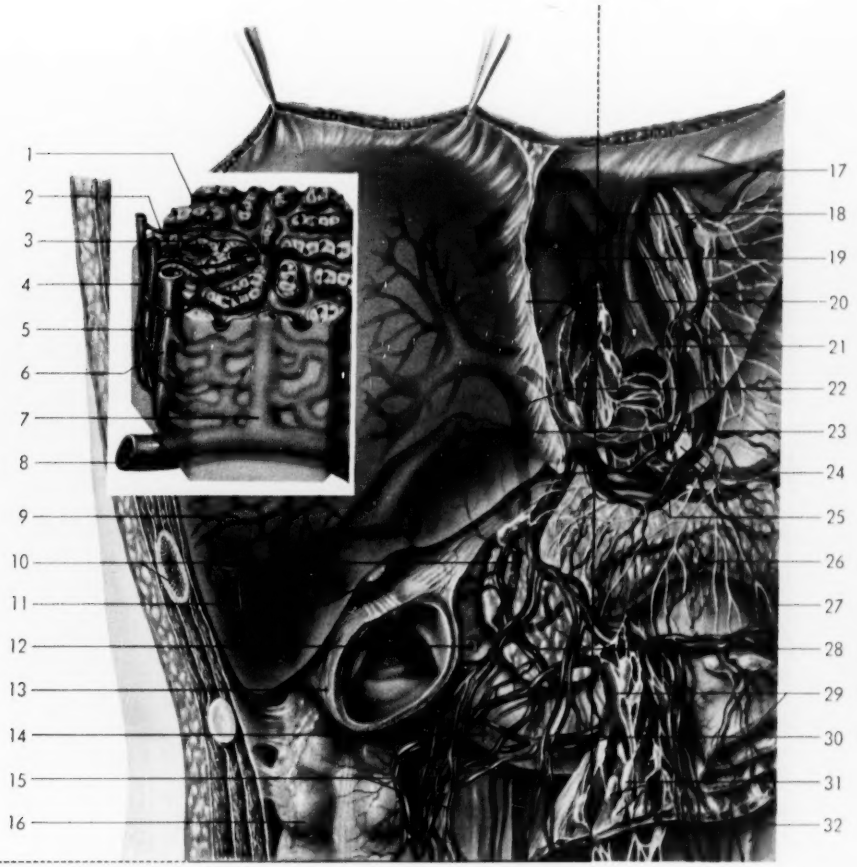
Upper Right Quadrant of the Abdomen



1 Sinusoid
2 Arteriole
3 Bile capillary
4 Branch of hepatic artery
5 Bile duct
6 Branch of portal vein
7 Central vein
8 Branch of inferior vena cava
9 Right lobe of liver
10 Common bile duct and tenth rib
11 Gallbladder
12 Papilla of Vater
13 Transverse colon
14 Duodenum
15 Branches of right colic artery and vein
16 Ascending colon
17 Coronary ligament and esophagus
18 Left hepatic vein and left vagus nerve
19 Inferior vena cava and right vagus nerve
20 Falciform ligament and branch of portal vein
21 Abdominal aorta and celiac plexus
22 Hepatic duct and hepatic artery
23 Cystic duct and celiac artery
24 Celiac ganglion and gastroduodenal artery and vein
25 Left gastric artery and coronary vein
26 Pancreatic duct
27 Right gastroepiploic artery and vein
28 Head of pancreas and pancreaticoduodenal artery and vein
29 Superior mesenteric artery and vein, and jejunum
30 Right colic artery and vein
31 Superior mesenteric lymph nodes
32 Inferior mesenteric vein and left ureter

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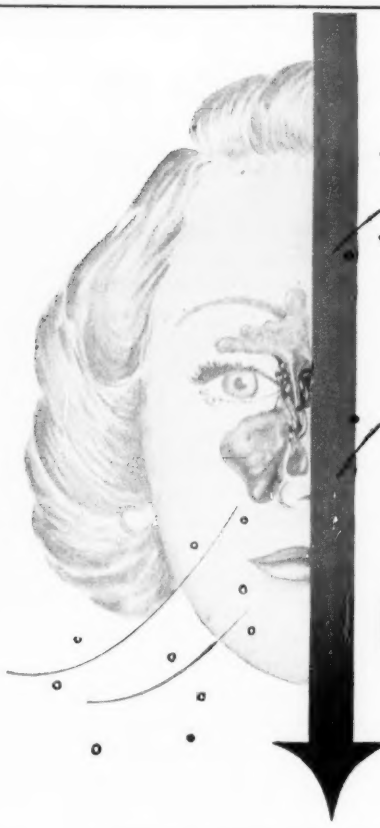

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1. Van Alyea, O. E., and Donnelly, Allen: *Arch. Otolaryng.*, 49:234, Feb., 1949.

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Meat and its applicability in the Dietary Management of Atherosclerosis

Contrary to the former belief that serum cholesterol levels are primarily related to ingested animal fat and consequently to dietary cholesterol, it now appears that the total amount of fat in the diet, not its source or cholesterol content, is a more important factor in determining the blood cholesterol concentration.[1,2,3,4] Clinical observation has shown that ingestion of vegetable fat—which contains no cholesterol—will, like fats of animal origin, raise the serum cholesterol level.[3, 5]

Recent basic research on the influence of fats and cholesterol on human health has done much to further progress in the fight against atherosclerosis. It will serve well in dispelling the mistaken fear that reasonable amounts of foods of animal origin predispose the individual to this vascular disease.[6] As a matter of fact, a dietary inadequate in essential nutrients but providing too many calories and too much fat from *any* source may well be an important factor underlying the deposition of fat and cholesterol in the arteries and liver.

Cumulative evidence indicates that lowered blood levels of cholesterol may be effected by restricting the total fat intake.[1] Except in instances of refractory hypercholesteremia, in which a daily fat intake as low as 10 Gm. may not reduce cholesterol levels to normal, diets containing 20 to 30 Gm. of fat, or even more, often produce low cholesterol blood levels. In the clinical application of this principle, various palatable, low fat diets which supply three servings of meat daily (containing 18 Gm. of fat) have recently been suggested for the dietary management of arteriosclerosis and for enlisting the cooperation of patients.[1] The meat servings were chosen from a large variety of cuts and kinds of meat (fat trimmed off, as lean as possible). Meat adds to the eating appeal of the fat-restricted diet and contributes important amounts of biologically complete protein, the B group of vitamins including B_{12}, and food iron—all of which are important for a good state of nutrition in the atherosclerotic patient.

1. Hildreth, E.A.; Hildreth, D.M., and Mellinkoff, S.M.: Principles of a Low Fat Diet, Circulation 4:899 (Dec.) 1951.
2. Bloch, K.: The Intermediary Metabolism of Cholesterol, Circulation *1*:214 (Feb.) 1950.
3. Keys, A.; Mickelson, O.; Miller, E.V.O., and Chapman, L.B.: The Relation in Man Between Cholesterol Levels in the Diet and in the Blood, Science *112*:79, 1950.
4. Gubner, R., and Ungerleider, H.E.: Arteriosclerosis, a Statement of the Problem, Am. J. Med. 6:60, 1949.
5. Hildreth, E.A.; Mellinkoff, S.M.; Blair, G.W., and Hildreth, D.M.: The Effect of Vegetable Fat Ingestion on Human Serum Cholesterol Concentration, Circulation 3:641 (May) 1951.
6. King, C.G.: Trends in the Science of Food and Its Relation to Life and Health, Nutrition Rev. *10*:1 (Jan.) 1952.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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1. Bednar, G. A.: South. M. J. 46:298 (March) 1953.
2. Wright, C. S. et al.: A. M. A. Arch. Dermat. & Syph. 67:125 (Feb.) 1953.
3. Robinson, H. M. et al.: South. M. J. (in press).
4. Andrews, G. C. et al.: J. A. M. A. 146:1107 (July 21) 1951.

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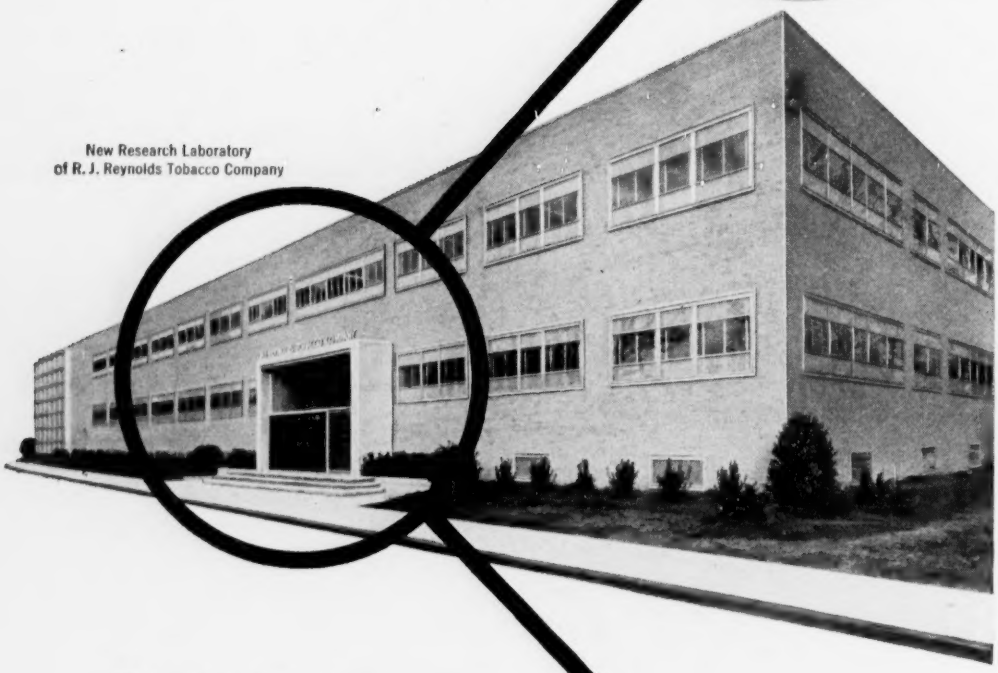

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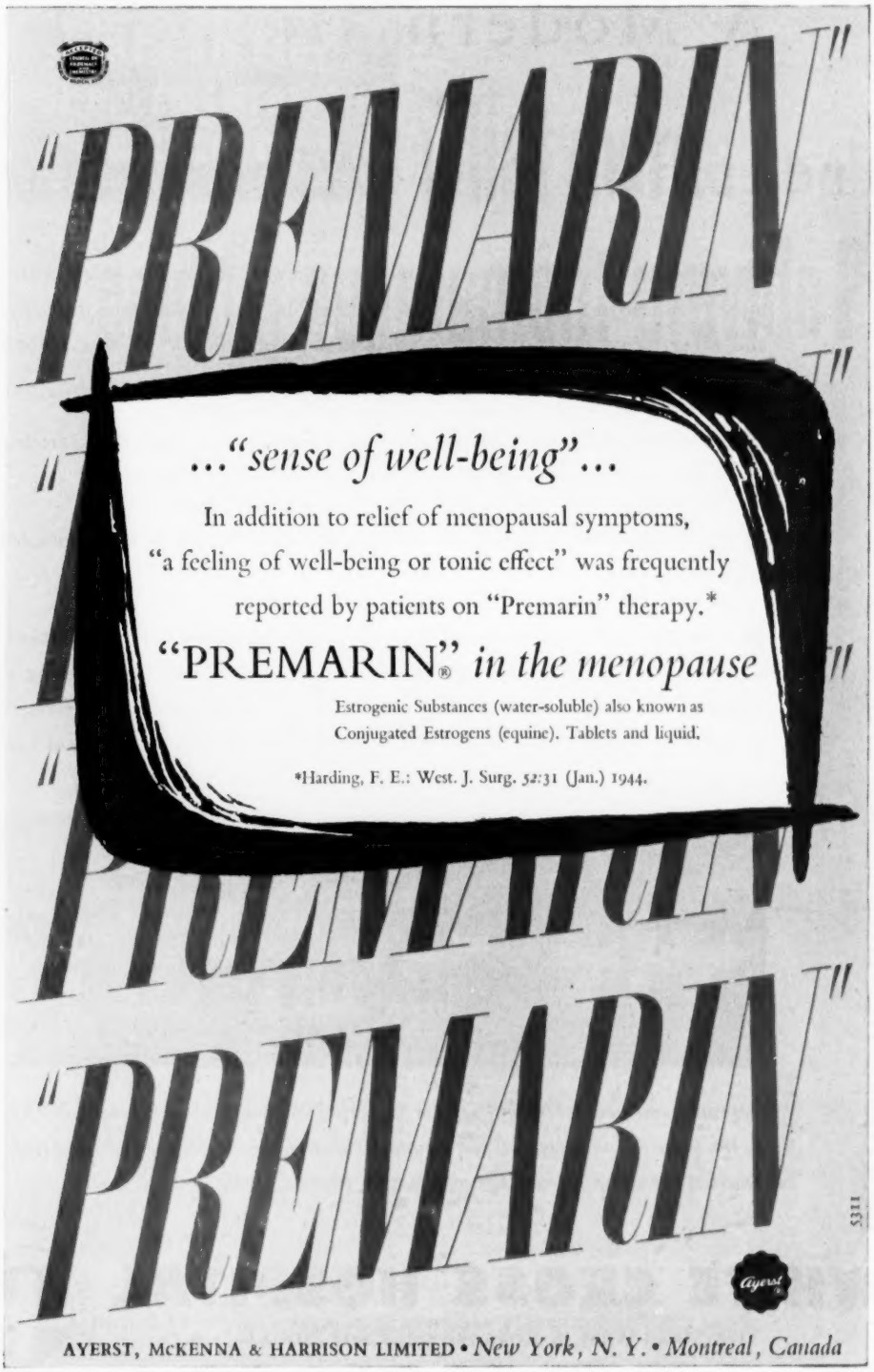
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*Harding, F. E.: West. J. Surg. 52:31 (Jan.) 1944.
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FLUORINE	3.0 mg.	*NIACIN	6.7 mg.
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*IRON	12 mg.	PYRIDOXINE	0.6 mg.
MAGNESIUM	120 mg.	*RIBOFLAVIN	2.0 mg.
MANGANESE	0.4 mg.	*THIAMINE	1.2 mg.
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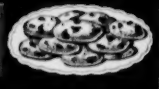

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CAUTION: 'Carbo-Resin' is supplied in two forms—flavored and unflavored. Only 'Carbo-Resin,' Unflavored, is suitable for incorporation into recipes.

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'Carbo-Resin'

(CARBACRYLAMINE RESINS, LILLY)

NORTH CAROLINA MEDICAL JOURNAL

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VOLUME 14 JULY, 1953 NUMBER 7

MEDICINE IN THE SEVENTEENTH AND EIGHTEENTH CENTURIES

*With Special Reference to Neurology**

JOHN F. FULTON, D. PHIL., M.D.†

NEW HAVEN, CONNECTICUT

I am very happy to be at Chapel Hill tonight at a university which until now I have only been able to admire at a distance.

It is a great honor to be invited to inaugurate the lectureship in memory of Ross Herman Jennings Bryson. A lectureship of this sort always carries with it a unique responsibility, since one is charged with the obligation to convey to one's audience something of the fascination and challenge of that phase of medicine which most inspired the person for whom the lecture is named. The spirit of Ross Bryson, who so early showed great promise and compelling interest in neurology and the history of medicine, will through the vision and generosity of his parents, continue indefinitely to stir the students on this campus. Each year his enthusiasm will be interpreted and conveyed through another lecturer who recognizes what a continuing force such a life, though all too brief, can be in the community where he first met and accepted the call of a career in medicine. Although he did not live to fulfill the promise of his youth, his contribution to medicine is by no means finished. For who knows when some other student will catch the spark of his fervor and will carry forward the work on which he was entering so happily and with such great eagerness!

Since he was interested in both the nervous system and the history of medicine, the history of neurology in the seventeenth and eighteenth centuries seemed an apt subject to explore this evening. There was a growing interest in the functions of the nervous system during the seventeenth century — the century, you will remember, which claims Shakespeare and Milton, Newton and Bacon, Gilbert and Boyle, Rembrandt, Cervantes, Molière, William Harvey, Descartes, and a galaxy of other brilliant names. Descartes grasped the significance of Harvey's great discovery, but theoretically he remained a Galenist in ascribing the movements of the heart to its own heat. In his treatise, *Des passions de l'ame*, published in 1649*, he propounded the idea of the reflex—in his hands a speculative concept with little attempt at experimental proof.

The Work of Thomas Willis

But after Descartes we have the remarkable work of Thomas Willis, the son of a farmer in Wiltshire who came to have one of the most fashionable practices in the city of London—a practice which for the first time was devoted largely to neurology. But before he went to London, while he was Sedleian Professor of Natural Philosophy at

*The first Ross Herman Jennings Bryson Lecture at the University of North Carolina, Chapel Hill, March 28, 1952.

†Sterling Professor of the History of Medicine, Yale University, New Haven.

* In the English translation, published in London in 1650, one finds on page 30: "Furthermore, if this figure be very strange, and hideous, that is, if it have much similitude with such things as have formerly been offensive to the body, it excites in the Soul the Passion of fear, afterwards, that of boldness, or else an affright or scaring according to the various temper of the body, or the force of the soul, and according as a man hath formerly protected himself by defence or flight against noxious things whereunto the present impression hath some resemblance; for this renders the braine so disposed in some men, that the spirits reflected from the image so formed on the kernell, go from thence to fall, part into the nerves, which serve to turn the back, and stirre the legs to run away and part into those which (as is spoken of before) let out or draw together the orifices of the heart, or which else so agitate the rest of the parts from whence the blood is sent, that this blood not being rarified there in the usual manner, sends spirits to the braine that are fitting to maintain, and confirm the passion of fear, that is, such as are proper to hold open, or open again the pores of the brain that convey them into the very same nerves; for the meere entry of these spirits into these pores excites in this kernell a particular motion, instituted by nature to make the soul feel that passion; and because these pores relate principally to the little nerves that serve to lock up or open wide the orifices of the heart, this makes the Soul feel it, as if it were chiefly in the heart."

Oxford, he did fundamental work in experimental neurology, the first of any significance in the modern sense of the term "experimental." In 1664 he published a book that has become a landmark in the history both of neuroanatomy and neurophysiology, *Cerebri Anatome*[1]. In it he described the main morphological features of the brain and spinal cord, including a most excellent account of the cerebral vasculature and the vascular circle at the base of the brain which has since borne his name. It is of interest that the celebrated plate showing the vascular circle was drawn by the young Christopher Wren, who was then in Thomas Willis' employ as a laboratory assistant.

Wren had come up from London as an impecunious youth, after having worked in the laboratory of Sir Charles Scarborough where he had learned the art of vascular injection; and I strongly suspect that it was the great-architect-to-be rather than Willis himself who discovered the Circle of Willis. The *Cerebri Anatome* was also notable for the account which Willis gives of his experiments on the cerebellum. He exposed the cerebellum in living animals, and in attempting to study its function he made ablations and also stimulated the cerebellum in crude fashion, finding that when it was strongly stimulated, or extensively ablated, the heart stopped. He concluded that it must have something to do with involuntary function as opposed to voluntary actions originating in the cerebral hemispheres. This in itself was a brilliant deduction, even though based on somewhat faulty interpretation of experimental data.

There were others in the seventeenth century who studied the anatomy of the brain, the most notable of these being Ridley and Vieussens. But while they made a number of advances in anatomic delineation, they contributed little in the sphere of function.

Contributions to the Knowledge of Reflex Action

Stephen Hales

The late Sir Charles Sherrington, the foremost student of the nervous system of our time, always insisted that the fundamental experiment in our knowledge of reflex action was performed by the English country parson, Stephen Hales of Teddington. That good parson was interested in the nervous system of frogs. They apparently had too many frogs in the garden of his rectory and he had periodically to do away with some of them. This he did by chopping off their heads, evidently at the level of the medulla oblongata. Being of an inquiring mind, he became much interested in the fact that the beheaded frog, after an interval, still hopped about, and when his hind limbs were stimulated, they automatically contracted. Being an investigator not only by nature but by training, since he had been a pupil of Sir Isaac Newton's at Cambridge, Hales then decided to find out what part of the nervous system was responsible for these reactions. He quickly satisfied himself, for when he thrust a probe down the spinal canal and destroyed the spinal cord, all reactions ceased. So the reflex, as far as the frog was concerned, was dependent on the integrity of the spinal cord.

Robert Whytt

Unfortunately, Hales never published these observations in detail—probably because he feared that it would get him into difficulties with his parishioners. But he did write a full account of them to another man much interested in the functions of the nervous system. This was Robert Whytt, a thoughtful neurologist who occupied the chair of the Institutes of Medicine at Edinburgh. Whytt mentioned the experiment in his volume of *Physiological Essays*[2], published in 1755, and gave Hales full credit for the discovery of the anatomical basis of the spinal reflex. This was the beginning of much that followed, the beginning, indeed, of the studies which led to the immortal work of Charles Scott Sherrington who died on March 4, 1952, at the ripe age of 94.

Robert Whytt was an experimentalist of the highest order, for he displayed greater genius in his work in neurophysiology than any other individual whom we encounter in the eighteenth century. His *Physiological Essays* are well known, but the book that ranks in importance with Harvey's *De motu cordis* and Sherrington's *Integrative Action of the Nervous System* bore the title *On the Vital and Other Involuntary Motions of Animals* and appeared in 1751[3]. In it he introduces the modern terminology of the reflex, using the words "stimulus" and "response." He made sections at various levels of the cerebrospinal axis and evidently, although he did not describe it too clearly, encountered the phenomenon of decerebrate rigidity. Better

known is his description of the reflex response of pupils to light. One of his patients who had fixed pupils later died, and at autopsy Whytt found a cyst that compressed the optic thalamus. From this clinical case he concluded that the reflex response of the pupils to light involved stimulation of certain retinal elements and that these elements conveyed information concerning the stimulus to the optic thalamus, which, in turn, reflected them out over motor nerves innervating the pupil. For many years, and in some textbooks still, the pupillary response to light is known as the Whytt reflex.

There is much else in this famous book that might be commented upon. He accepted Thomas Willis' division of the reactions of the nervous system into voluntary and involuntary; indeed, he was the first to draw attention to Willis' celebrated concept. Whytt also published a number of books in the field of clinical neurology, and among other things for which he must be credited is his description of tuberculous meningitis. This appeared in a volume entitled *Observations on the Dropsy in the Brain* published in 1768[4].

Cotugno's Discovery of the Cerebrospinal Fluid

Another great landmark in neurology was the discovery in the eighteenth century of the cerebrospinal fluid by an obscure Italian medical student Domenico Cotugno[5]. Born of humble parents on January 29, 1736, in the town of Ruvo in Pulgia which lies in the eastern part of the "boot" of Italy facing the Adriatic, Cotugno spent his childhood among the Roman ruins which abound in this part of Italy. He frequently visited the nearby town of Molfetta, and it was here that he received his early education in a Jesuit school. His later years were spent in another school in Andria, a hill town not far away, with its splendid Gothic ruin — the castle built by Frederick II (1194-1250) early in the thirteenth century.

Cotugno was evidently a most unusual student, for the family's feudal lord, the Duke of Andria, sent the lad at 17 to study at the University of Naples. He impressed his teachers at Naples, as he had earlier in the Jesuit schools; and the eminent professor of philosophy, Antonio Genovesi, to whom he is said to have gone for advice about his future, said this to him at the beginning of his career as a medical student: "If you have an original idea, write it down, and put it among your papers; after some time read it, and perhaps a second idea will come to mind in a similar manner to the first. Add this to the original thought and later, reread them both. A third and fourth idea may be created and perhaps a complete work will be the result of the first idea." Young Domenico took this advice seriously, and we find him publishing three monographs, the first when he was 25, at 28 the second, and most important because it announced his discovery of the cerebrospinal fluid, and the third and last at 32. Thereafter he earned the dubious reward of being saddled with heavy administrative duties, and his productivity ceased. History indeed repeats itself!

Cotugno had entered the University of Naples as a medical student in 1753, and during the next half century and until his death in 1822 he saw Naples under several rules and plagued by pestilence and revolution. It was not an age, nor yet an atmosphere conducive to reflection or scientific investigation, and yet he persevered under incredibly difficult circumstances. While supporting himself as a young resident physician in the great Neapolitan hospital for chronic diseases under living conditions that were truly grim, for he was obliged to subsist largely on radishes and bread, he worked far too many hours in the day. The result was tuberculosis, and at 22; and after a severe hemoptysis, he was confined to his bed. A sympathetic hospital superintendent had him moved to a cheerful sunlit room overlooking the sea and provided special meals for him directly from the hospital kitchen.

With rest, sunshine and good food, Cotugno recovered and began at once to continue his studies on the comparative anatomy of the ear. He also taught surgery to the medical students while holding his post at the hospital. He dissected the temporal bones of hundreds of animals — birds, rabbits, rats, dogs, and even human cadavers. He recognized the two divisions of the acoustic nerve, one branch being a "soft nerve which is completely dispersed in the cochlea" and the other, he wrote, arising in the semicircular canals. This relationship obtained in all animals he examined. He also recognized the existence of labyrinthine liquid in the semicircular canals; this was an important step forward because hitherto the canals were thought, as a result of an error made 50 years earlier by Valsalva, to contain air.

In 1761 he published his monograph, *De aquaeductibus auris humanae internae*[6]. It is a striking contribution, most important historically, for he expressed the belief, among other things, that the cochlea was an organ tuned for the perception of different pitches of sound. A contribution of this quality made in the midst of illness and the heavy responsibilities of a hospital post should be an inspiration to medical students of any age.

First description

An even more important book, *De ischiade nervosa*, followed in 1764[7]. This contains some astute clinical observations on sciatica which had led him to the spinal cord in the quest of the site of the nervous irritation. Then it was that he encountered the cerebrospinal fluid and was led to give the first adequate description of the liquid. He tells us that outside the dura mater of the spinal cord one encounters cellular fat which serves as a cushion to minimize mechanical injury. In the space between the dura mater and the spinal cord, however, one finds "water, like that which the Pericardium contains about the heart; or such as fills the hollows of the ventricles of the brain, the labyrinth of the ear, or other cavities of the body, which are impervious to the air."[8]

He pointed out that this fluid was found not only around the spinal cord, but filling the cavities of the skull and all spaces between the brain and dura mater. He also recorded the existence of fluid within the fourth ventricle. He made another interesting incidental observation — namely, that in old people, when the brain becomes diminished in size, the extra space between the brain and the dura is occupied by the cerebrospinal fluid.

He attributed the fact that the fluid had not been observed by earlier anatomists to the common practice of decapitating the cadaver prior to dissecting either the brain or the spinal cord. This caused all the water around the brain and spinal cord to flow out and be lost. He tells us, moreover, that in one instance he had thrust a large needle into the region around the cauda equina and that fluid emerged through the needle, which action indeed must be set down historically as the first recorded lumbar puncture.

Even more remarkable is his record of having seen the cerebrospinal fluid arising from small arteries in the choroid plexus and being absorbed again by the veins. This is what he says: "[The fluid] oozes out from the extremities of the small arteries [of the choroid], and is again resorbed by the small inhaling veins, so as to be in a continual state of renovation."[9] This was a brilliant bit of acute observation on the part of the young experimentalist, and one which has few parallels in the history of medicine.

It is possible that others had seen the cerebrospinal fluid before Cotugno without having made special note of it. There is a passage in Valsalva's *Anatomy*[10] in which reference is made to a liquid observed around the spinal cord of a dog, but it was Cotugno who first described the fluid in detail and observed that it passed continuously from the small arteries into the veins; it was this observation which laid the foundation for the subsequent work of Magendie, Quincke, Harvey Cushing, Lewis Weed, and the Boston neurologist, James Ayer, who introduced the practice of cistern puncture.

Francesco Gennari

Hughlings Jackson, the great English neurologist once said that "differentiation of structure means differentiation of function," and it is interesting that another Italian medical student, Francesco Gennari of Parma, laid the foundations of that branch of neuroanatomy which we now refer to as cytoarchitectonics. Gennari had received his medical education at Parma and had come under the stimulating influence of Michele Girardi (1731-1797), who occupied the chair of anatomy there. Under Girardi, the young Gennari became fired with enthusiasm for the study of morbid anatomy, and while a student of 23 years of age he made the observation on the anatomical conformation of the occipital cortex which gave him his subsequent reputation. He received his degree from Parma in 1776, and a contemporary document recorded that he had at 26 "already earned fame as a learned doctor and an acute anatomist." Like Cotugno, Gennari came of a family of humble origin, but the authorities at Parma, recognizing his genius, gave him an annual subsidy. He had, however, an unfortunate and uncontrollable taste for gambling, and most of his subsidy was lost on the gaming table. As a result he was in constant penury and died young, although the actual date of his death is not known.

The book which carries his name to pos-

terity. *De peculiari structura cerebri nonnullisque eius morbis,* appeared at Parma in 1782. He records that on February 2, 1776, on sectioning the brain of a frozen human cadaver, he observed a white line in the cortical substance of the occipital lobe which he designated *"Lineola albidior."* The celebrated passage runs as follows:

> None of the anatomists I have come upon in reading have taught that, besides the cortical substance and the medulla, there exists in the brain another substance which I shall call the third substance of this viscus. If anyone has looked at the horizontal strata of the cortex of a brain dissected at the point where it conjoins with the medulla, he will have found a certain whitish substance ('subalbida'). This does not always present itself in exactly the same spot, appearing a little farther from or a little nearer to the medulla; It is however always observed with the same extension, with the same color, sometimes more abundant and sometimes more obscure; sometimes subtle, sometimes clearer; at points, difficult, at others it is easy to demonstrate. In a defect of a section, especially if it is transected obliquely, this substance disappears; not only in single brains, but also in diverse parts of the same brain I have observed such variations, as if many times it reappeared in such points, afterwards with a duplicate line. Especially in the anterior parts or solely 'subobscure,' it is possible to retrace it, but since it becomes denser to the posterior, I have come to the conclusion that its appearance can be more certainly obtained[11].

Gennari inferred that the white line must have functional meaning, but it was not until 1840 that Baillarger, physician to the Salpetrière in Paris, recognizing Gennari's line in the occipital lobe, pointed out that it extended in somewhat less conspicuous fashion throughout the entire cerebral cortex and that it represented one of the six basic layers in the organization of the cerebrum[12].

It is interesting that young Gennari, who was not familiar with Cotugno's work, rediscovered the cerebrospinal fluid in his frozen specimens. He tells us that in the ventricles the water contained therein was converted into minute icicles which in states of disease were much augmented; he adds that frozen water was also found in the intermediate spaces of the periphery of the nervous system. It is therefore clear that we must trace the origins of our knowledge of the cerebrospinal fluid to the alertness and perseverance of two young Italian medical students.

*Respiration**

Neurophysiology and the physiology of respiration have always been to some extent interrelated, and it is no doubt significant that progress in the two fields came simultaneously during the eighteenth century. As with neurology and neurophysiology, one finds the roots of modern knowledge concerning the physiology of respiration in the seventeenth century. No progress was possible until William Harvey had established the fact of the general circulation of the blood; after that, it became possible to understand the significance of the lesser circulation of blood through the lungs.

Robert Boyle in 1660 recognized that some quality of the air was absorbed during respiration and that this same quality was essential for combustion, as illustrated in the burning of a candle. Although Boyle did not actually isolate oxygen, he defined it as an entity of the air essential for respiration and combustion. His pupil, Richard Lower, asked himself how it was that blue venous blood became crimson on passing through the lungs. He then made the important observation that when venous blood was placed in a flat dish and exposed to the air, little by little it becomes crimson in color, thus offering another line of evidence that something in the air was responsible for changing venous into arterial blood.

John Mayow observed that animals when in a water-sealed container gradually caused a diminution in the volume of the air in the container as a result of their respiratory activity. After the volume had diminished by about 13 per cent, the animals became unsteady, and if fresh air were not put into the container, they proceeded to have convulsions. This likewise indicated that something in normal air was aborbed by the process of combustion.

Stephen Hales, whom we have already mentioned, performed a similar experiment on himself in 1728, for he found that when he breathed in and out of a paper bag filled full of air, the volume of gas in this closed system little by little diminished. As with Mayow, he found that when the volume of air in the bag had diminished 12 to 13 per cent, he himself became giddy. He wrote further: "Toward the end of the minute, the bladder was become so flaccid that I could not blow it above half full with the greatest expiration I could make. . . . . Hence it is plain that a considerable quantity of the elasticity of the air contained in my lung

*Specific references for this section will be found in my Heath Clark Lectures, Aviation Medicine in its Preventive Aspects: An Historical Survey, London, Oxford University Press, 1948.

and the bladder was destroyed." His estimate of the bag being half full was, of course, only an approximation, and he later made a more precise volume determination.

Hales described the neurological symptoms associated with low oxygen tension, although he did not recognize oxygen as such; he, like Boyle, referred to it as a special quality in the air. He performed another ingenious experiment having to do with the removal of carbon dioxide by a special valve which involved the passage of the air over "sal tartar" (as he called it); when this was done in his sealed-bag experiment, he was able to go on breathing considerably longer than when the toxic vapor was not removed. Hales did not isolate carbon dioxide, but he recognized that there was something in the exhaled air that was deleterious to respiration.

Priestley and Lavoisier

The story now proceeds to the work of two remarkable men, Joseph Priestley and Antoine Laurent Lavoisier. Like Hales, Joseph Priestley was an ecclesiastic, and it was as a Unitarian divine that he began his career as a tutor in the Dissenting Academy at Warrington near Manchester in England. He was a man of many interests. He taught languages, the sciences, geography, and modern history. His insistence on the latter was perhaps his most outstanding contribution to British education. The teaching of history at that time did not go beyond Greece and Rome, but Priestley, knowing that many of his students were being prepared for public service, believed that they could not discharge their responsibilities successfully if they went out into the Empire without some knowledge of recent historical developments.

Priestley had gone to Warrington in 1762, and in 1767, while attending a meeting of the Royal Society of London, he happened by chance to meet Benjamin Franklin, who at that time was profoundly interested in electricity. Franklin complained that in Philadelphia he suffered from want of library facilities, and he proposed to Priestley that he write a history of electricity. This suggestion fell on fertile soil, and within a year Priestley compiled a magnificent two-volume work on the history and present state of electricity.

In the course of his studies, he became interested in how electric charges were conducted through the air. He had the erroneous impression that such charges were transmitted more readily in fixed air—that is, carbon dioxide—than in ordinary air. To investigate this hypothesis, he developed ways and means of collecting pure carbon dioxide, work which carried him on to a study of the properties of other gases. He isolated some nine in all, and on August 1, 1774, he produced a gas by heating the red oxide of mercury in a sealed container with a burning glass—a gas that supported respiration five times more effectively than ordinary air. It likewise supported combustion in the same fashion. Following his preconceived notion that the air contained phlogiston which inhibited combustion, he referred to his new gas as dephlogisticated air. Actually, it was what we would now term "pure" oxygen. In October of 1774 he communicated this disclosure to the French chemist, Lavoisier, who at once appreciated the significance of the observation. Within a few months he had proved that Priestley had isolated an elemental gas and that it was this gas which was responsible for the increase in weight in metals during "calcination" — to use Lavoisier's term.

Other Advances

The eighteenth century saw advances in many other spheres of scientific medicine.* Morgagni in 1761 published his celebrated *De sedibus et causis de morborum* which founded the science of morbid anatomy and in which disease symptoms were correlated with pathologic findings after death.

In therapeutics there were two great contributions—one, the introduction of the practice of inoculation, and later Jenner's brilliant work on vaccination; but perhaps the greatest therapeutic advance lay in William Withering's introduction of digitalis. The story of the discovery of digitalis is too complicated to deal with here, but it is most interesting that one of the first to use the decoction of foxglove as a therapeutic tool was the first Charles Darwin (son of Erasmus Darwin) who died at the age of 20 of an infection acquired at the autopsy table while he was working as a student in Edinburgh. Young Darwin, who had learned of digitalis from his father Erasmus (a contemporary of Withering who had seen some of Withering's cases in consultation), used

*For more detailed references see Fulton, J. F.: Logan Clendening Lectures on the History and Philosophy of Medicine. I. Vesalius Four Centuries Later. II. Medicine in the Eighteenth Century. University of Kansas Press, 1950.

the drug in some 12 cases of cardiac failure. He kept good records, and after his death his father published the case records as an appendix to his thesis.

There were still other areas of medicine in which notable progress was made in the eighteenth century, especially in surgery where John Hunter, the great English anatomist, introduced the concept of physiological surgery. He taught that all tissues should be handled with the greatest care and that when exposed, they should be kept as nearly as possible in their normal milieu.

Conclusion

And so we come to the end of this brief review of the major medical advances in the seventeenth and eighteenth centuries. It was a stirring period in which modern medicine, as we now think of it, came into being. I should like to believe that Ross Bryson would have been interested in the details I have outlined, for he was deeply concerned with the backgrounds of medicine, appreciating what so many do not come to realize until long after their student years, how important in the study of modern medicine is its history.

In conclusion I should like to use some lines from an essay of Dr. Harvey Cushing's which I commend to your attention. He called it the "Emancipators"[13]—the emancipators being Joseph Lister and Abraham Lincoln. What Ross Bryson's contribution to medicine might have been, we do not know, but we do know that the spirit in which he was going forward will be timeless. As Dr. Cushing wrote: "Though lives die, the life is not dead; and the memory of lives such as these will be reverently and forever shared not by a profession alone, not by a nation alone, but by the universal brotherhood of man."

References

1. Willis, T.: Cerebri anatome cui accessit nervorum descriptio et usus, London, 1664. 4 Quarto.
2. Whytt, R.: Physiological Essays, containing I. An Inquiry into the Causes which Promote the Circulation of the Fluids in the very Small Vessels of Animals. II. Observations on the Sensibility and Irritability of the Parts of Man and other Animals, Edinburgh, 1755.
3. Whytt, R.: An Essay on the Vital and Other Involuntary Motions of Animals, Edinburgh, 1751.
4. Whytt, R.: Observations on the Dropsy in the Brain, Edinburgh, 1768.
5. Viets, H. R.: Domenico Cotugno: His Description of Cerebrospinal Fluid, Bull. Hist. Med. 3:701-738 (Nov.) 1935, p. 703.
6. Cotugno, D.: De aquæductibus auris humanæ internæ, Naples, 1761.
7. Cotugno, D.: De ischiade nervosa commentarius, Naples, 1764.
8. Viets, H. R.: (ref. 5), p. 715.
9. *Ibid.*, p. 719.
10. Valsalva, A. M.: Opera, Venice, 1740.
11. Gennari, F.: De peculiari structura cerebri nonnullisque eius morbis, Parma, 1782, pp. 72-75.
12. Fulton, J. F.: Jules Baillarger and his Discovery of the Six Layers of the Cerebral Cortex, Gesnerus, 8:85-91, 1951.
13. Cushing, H.: Emancipators. Read at the Lister Centenary Exercises, University of Edinburgh, July 20, 1927, pp. 271-276 In: Consecratio medici and other papers, Boston, Little, Brown and Company, 1940.

THE RELATION OF A UNIVERSITY MEDICAL CENTER TO THE COMMUNITY

DAVID P. BARR, M.D.

NEW YORK, N. Y.

On February 27 at the dedication of the Morehead Stadium in Leaksville, Lieutenant Governor Luther M. Hodges made a justifiably proud boast. He said that although North Carolina still ranks low among the States in its per capita income, it is close to the top in its expenditures for schools in relation to per capita income. I suspect that Lieut. Governor Hodges was speaking of North Carolina's support of her primary and secondary schools. That his remarks apply also to medical and health education is indicated by the recent record.

The state has expanded the medical school of this great University at Chapel Hill from a two- to a four-year program. It has authorized the continuation of the School of Public Health, which was initiated by President Frank Graham. It has encouraged the establishment of a School of Dentistry, and a School of Nursing, and has extended the course in pharmacy. Today it is opening a large, splendidly equipped modern hospital which adjoins and forms a part of a state medical center. Even better, all of these segments have been brought together within the University into one program of health and medical care under the scrutiny of a central planning board known as the Division of Health Affairs.

When this Division was established only four years ago, the operating budget amounted to $603,000. Last year it was more than six times as great. I have been told that the subsidy contemplated for 1953 is even greater. In addition to these increasing annual grants, $15,000,000 has been spent or designated for new construction or expansion of physical facilities in the hospital, in

Presented at the dedication of the North Carolina Memorial Hospital, Chapel Hill, April 23, 1953.

From the Department of Medicine, Cornell University Medical College, and the New York Hospital, New York.

the basic science laboratories of the medical school, in the dental school, and provisionally in the School of Public Health.

These splendid contributions take no account of the support received from foundations or other sources. They represent funds appropriated by the Legislature from the hard earned tax money of the people. This hospital which is being opened here today is much more than a local convenience; it is more than a usual university hospital; it is the hospital of the citizens of North Carolina, a token of their belief in the necessity of health for all the people, of their faith in those who guide the policies of the University, of their hope that the hospital will fuse its efforts with those of other branches of the Division of Health Affairs to foster medical care and health throughout the state.

Purposes

What can the people of North Carolina expect in return for their expenditure? What can be accomplished by a medical center and a teaching hospital in a state university? The general purposes of the enterprise were stated in the first annual report of the Division of Health Affairs in 1950. In outline they are as follows:

1. To train men and women in all the essential primary fields of health service to act as leaders and team members for the development of a statewide program of health
2. To provide postgraduate education for all participants in the rapidly changing and expanding fields of health and medical care
3. To provide consultation service to county health departments
4. To establish at the center a broad program of consultation service to individuals with problems too difficult to be handled at community level
5. To lead in teaching the people of the state what to expect and what to demand of a good health program.

Factors Influencing Present-Day Medicine

In this partially inclusive outline it is very clear that more emphasis has been placed upon the health of the people than upon medical service as such. It is also evident that integration of the educational policies of the medical center with the health needs of the state is intrinsic in the program. Many changes both economic and medical have occurred during the past few decades, and school curricula suitable to the past may not be well adapted to present conditions. A few relevant factors may be mentioned.

1. We live in a time of widespread preoccupation with health problems, as evidenced by newspapers and magazine articles, radio and television programs. The interest appears in a great variety of forms, from popularization of the newest triumphs of medical science to intensive drives to meet the needs of segmental problems such as cancer, tuberculosis, infantile paralysis, heart disease, arthritis, and mental health. There are eager inquiries concerning the adequacy of medical service, diatribes concerning its imperfections and deficits, schemes for better distribution and greater availability, proposals for the complete socialization of medicine to provide by law and taxation healthy minds in healthy bodies for all the people.

2. Attention is not focused solely upon the diagnosis and treatment of existing disease. There is increasing realization that it may be the function of a physician and a medical service to keep the well person well, to undertake the total health care of an individual in society. Such a program involves many activities. It naturally includes the appropriate use for adults as well as for children of all necessary procedures for immunization and of measures to prevent the spread of infectious disease. It implies continuity of medical care and access to the physician independent of the accident of illness. It involves the early detection of such diseases as cancer, tuberculosis, and syphilis. It is occupied with faulty eating habits and the prevention of obesity and food deficiencies, with the dangers of alcoholism and excessive cigarette smoking, with the avoidance of accidents in the accident-prone. It has as its goal, not primarily a reduction in death rate —for all must die—but the prolongation of effective life and the promotion of health in the productive years.

3. The control, and in some instances the eradication of infectious diseases, together with a better understanding of nutritional factors in infancy and also in later life, have combined with other factors to increase, actually almost to double the span of life. Many acute diseases which formerly occupied the attention of the practitioner of medicine, diseases such as typhoid fever, smallpox, diphtheria, and malaria, have almost ceased to exist. Other such as pneumococcus pneumonia, with its sequels of empyema, otitis,

sinusitis, mastoiditis, and lateral sinus thrombosis, are controlled with ease by modern antibiotic agents. Previously fatal diseases such as diabetes, pernicious anemia, and destruction of the adrenal glands, can be controlled with no great difficulty over indefinite periods. Surgery has resources undreamed of only a few decades ago. ACTH and cortisone offer hope of partial control of rheumatic diseases and a great variety of conditions previously almost uninfluenced by treatment. Modern methods of diagnosis—chemical, microscopic, electrical, and roentgenographic—permit recognition of illness sufficiently early for the effective use of therapeutic agents.

It is not surprising that all of us should be eager to make such potential benefits available to ourselves and our families. On the part of the public, the natural desire has become a demand. Alan Gregg has epitomized the situation thus: "Medical care is changing from the status of a private luxury or a blessed benevolence to the status of a civil right."

4. There must be agreement that the blessings of modern medical care should be available to all, and should include everything that science can offer to the preservation of health and the cure of disease. Recitation of the extraordinary benefits of medical science, however, should not blind us to the fact that over 50 per cent of the maladies of mankind are still out of control and cannot be materially influenced by the instruments of modern physical and chemical science. Advances in nutrition, housing, public health, teaching, and better understanding of disease have combined to extend the average span of life and to curb the killers of a former day. All these advances together have not eliminated death. Disease has not been banished; it has only been changed. The energies formerly devoted to the treatment of acute conditions must now be concentrated upon the control of chronic states, cardiovascular disease, cancer in its many forms, mental disturbances, and the various aspects of old age itself. Exploitation of all resources for rehabilitation and adaptation to chronic illness becomes increasingly important.

5. We who have lived through the past generation have witnessed a revolution in transportation. Communities formerly isolated may now be on the main road. A journey formerly taking a day can often be accomplished in a few minutes. This obliteration of distance is one of the great realities in today's medical service. Because of it, the people of North Carolina can calmly consider a statewide program of health. It was not long ago that planning was necessarily restricted to local situations.

6. Community public health has, in most communities, become so much a part of daily life that unfortunately it is almost taken for granted. Pasteurization of milk, inspection of meat, purification of water, disposal of sewage, and control of mosquitoes and flies have come to be regarded as inalienable rights of American citizens, which the government, whatever its politics, is obligated to furnish and maintain. It is well to remember, however, that we have these inestimable benefits only at the price of eternal vigilance. Their superlative importance becomes apparent only when they cease to exist.

7. The modern hospital, such as the superb institution that you are opening today, is a relatively recent phenomenon. For purposes of efficiency and economy it has become the center for diagnostic measures, surgery, and other of the more difficult and involved methods of treatment. It is a place for the care of all of those who require constant, skilled surveillance and nursing care. For the doctor it is the workshop without which he cannot adequately perform. This means that in any statewide program of health, community hospitals equipped to undertake all but the most difficult procedures and manipulations must be distributed at convenient locations.

8. This is an age of specialization. Much of the quality of modern medical care is dependent upon the skill of specialists, without whom our medical care would be deplorably limited. It is true that the inconvenience of referring patients from one specialist to another has excited much unfavorable comment. Again it is Alan Gregg who has said, "It used to be that the physician saw a variety of patients. Now it is that the patient sees a variety of physicians." In spite of criticisms, however, specialization has come to stay. It is made necessary by the undeniable fact that no one man can possibly be effective in the total field of medicine.

9. Because of this, the general practitioner of former times, the man who at grad-

uation from medical school was equipped for life to act as midwife, dermatologist, surgeon, pediatrician, psychiatrist, and spiritual guide no longer exists. No amount of propaganda or wishful thinking can bring about his return. On the other hand, the family doctor, the general health manager and counselor, is needed as never before. It has been estimated, and perhaps conservatively, that a well trained family physician under favorable conditions can offer effective care in 80 per cent of the illnesses of his patients. To make this possible, however, a number of conditions are necessary.

The Modern Family Physician

The training of the general family physician and advisor must be as thorough as that of any specialist. He must be indoctrinated in the sciences which have made possible the extraordinary advances of the last generation. He must be versed in the practice of today, and prepared to understand that of tomorrow. He must be a craftsman in the sense of mastering a relatively large number of simple but exacting techniques. He must be a humanist to the extent of developing a deep understanding of human nature and human behaviour. Somehow he must capture the attitude that the physician's function is not limited to the cure of disease, but includes the responsibility of keeping people well.

The initial training of the family physician is only the beginning of his education. There is no field of human endeavor in which important advances are occurring at a more rapid rate than in medicine. Every week brings its quota of new knowledge which is not only significant but practical. Even medical teachers, in constant contact with advanced practice under the constant stimulation of their younger colleagues, find themselves unable to keep abreast of all that might be important in the care of their patients. A family physician in order to serve optimally must have the opportunity for renewing and refreshing his knowledge. Otherwise this year's most brilliant and hopeful graduate may be grossly uninformed at the end of five years, or even in two or three. To this continuing educational process the program of the medical center at Chapel Hill may offer a crucial contribution.

The family physician must have a workshop in the form of a hospital, a place where he can obtain necessary diagnostic examinations, where he can refer his ill patients, and where he can carry out certain procedures not easily undertaken in the home or the office.

He must be concerned with the general health of the community as it relates to his own patients. He must be aware of community agencies which will aid in the care and rehabilitation of the chronically ill.

At the same time that he is confident of his abilities, the family physician must be discriminatingly aware of his limitations. Ideally, he should regard himself as a member of a team. This may be on a formal or a moderately casual basis. He must have access, however, to the services of a variety of specialists. He will know how to utilize the efforts of social workers and visiting nurses. If anything is apparent it is that the various schools which the University of North Carolina is establishing at Chapel Hill are not for the production of solo practitioners of medicine, dentistry, nursing, and pharmacy. They are for the training of members of health teams in which the physician, and perhaps particularly the family physician, will take a leading role.

It may be possible to summarize without overemphasis the interplay of some of the factors that have been mentioned. Modern transportation and communication have made it possible to consider a health program embracing the entire State of North Carolina and to evolve plans by which this fine new center at Chapel Hill may influence it. In view of recent trends, one may venture the prediction that the service will be increasingly concerned with preventive measures, with the problems of chronic disease and old age, and with the interplay of medical, psychological and social factors in disease. Because of the complexity and the innumerable facets of optimal modern medical and health care, the program must look to team play as well as to individual effort.

Modern hospitals form natural centers for health programs. They will be required in numerous counties and districts. Their locations will be determined by their accessibility to the people and their physicians. In these centers may be gathered all the resources for the improvement of health conditions and the complicated paraphernalia of medical diagnosis and treatment. In them, public health service officials, family physi-

cians, specialists, nurses, dentists, and social workers will find a common ground where effective cooperation and correlation of functions may be evolved. It seems possible that for most of their activities these smaller units can function quite separately. Only in more complex situations will it be necessary to invoke the exceptional and superlative facilities at Chapel Hill.

Assets of the New Center

These are some of the conditions of modern life and medical care under which the future graduates of the schools established at Chapel Hill will be called upon to operate. It is the expectation of the Legislature and the citizenry of North Carolina that they will be able to meet them successfully. The prospect that they can do so is excellent. Certainly the new medical center possessses several inestimable advantages. It is operating under a virtual mandate of the people expressed through the Legislature. It has assurance of the people's belief that the opportunity for good health is a basic human right for which they in turn are willing to offer substantial financial support. It has the advantage of being situated in a university community where instruction in special fields not available to students in many other schools will be readily obtained. The comprehensive character of the service which can be rendered in such a setting is indeed impressive.

It is said that the center has the active and enthusiastic support of practitioners of the state and local medical societies. I am told that they view the enterprise with pride as an extension of their own efforts to foster health and that they regard with satisfaction the able men who have been selected to serve as leaders.

Faculty

Certainly for the initiation of the enterprise a truly outstanding faculty has been assembled. It has been virtually hand-picked by Dean Berryhill, a connoisseur of men both from experience and by natural endowment. He has selected vigorous, progressive, enlightened colleagues, who can not only appreciate what is best in the training of the past but also envisage the needs of the future. Some of these men have their roots deep in the State of North Carolina and its University. Others have been brought from distant places because of their outstanding qualities and past achievements. With men of the attainments of Burnett, Womack, Fleming, and Clark, the prospects of the new school are bright endeed.

Organizational features

Although the actual teaching of clinical medicine is no novelty at North Carolina and although the medical school has been in existence for almost three-quarters of a century, the new enterprise is uniquely free from hampering precedents, undesirable institutional habits, and frozen departmental attitudes. Its experienced faculty can, without restriction, attempt arrangements of student curricula, out-patient departments, and community relationships which reflect the realities and needs of the present.

This freedom of choice is nowhere more apparent than in the tables of organization which have been drawn up for the initial conduct of the out-patient department. If consummated, this plan will introduce at once a number of desirable features which have been notoriously underdeveloped in many existing schools and medical centers. In outlining this organization, the faculty has been influenced to some extent by experiments now undergoing trial at Cornell and the University of Colorado. In other respects it has devised its own formula to meet local needs.

Some of its features may be mentioned. The out-patient department will be a joint effort. Compartmentalization and the usual barriers between special clinics and the various clinical specialities will be avoided. Attempt will be made to focus efforts for the optimal instruction of the student and the optimal care of the patient within the framework of service which can be comprehensive and continuing. Through the interest and financial support of the Commonwealth Fund, it has been possible to establish at the very beginning of the new clinic a full-time staff devoted entirely to the successful operation of the out-patient department as a whole. At the start the group will include an internist, a surgeon, two psychiatrists, an experienced teacher in preventive medicine, a social scientist, two social workers, and two community nurses. With such an organization, it is hoped that a realistic picture of the various medical, social, psychological, and emotional factors which enter into the composition of human illness can be drawn.

In this discussion of special advantages of

the center, emphasis has been placed chiefly on the training of the physician, and it may appear that one of its greatest assets has been lost to view. It must be emphasized again that this project, fostered by the people of North Carolina, is not solely for the training of doctors or the improvement of strictly medical service. It is also designed for the education of dentists, and nurses, and pharmacists, and others who will be necessary contributors to a well rounded health program. In this environment and with this spirit it is hoped that young men and women will receive their preparation not only as craftsmen of their special skills and disciplines, but also as contributors to an organized campaign for more positive and abundant health.

The Road Ahead

In spite of all these extraordinary advantages, the road ahead is not likely to be easy. In attempting to integrate educational programs with community activities and needs, the people of North Carolina have undertaken an expensive, long, and arduous task. The present faculty of the clinical departments, so excellent in quality, is woefully insufficient in number. These men alone cannot encompass all the clinical duties, the undergraduate teaching, and the responsibilities of postgraduate instruction implied by the plans as outlined. The present subsidies from the state, generous as they are, represent only a beginning. Some of the current plans must be regarded as tentative and may require frequent revision. The goal so admirably envisaged at the very inception of this enterprise cannot be reached quickly. It is probable that the people of the state and their Legislature, as well as the leaders at the University, will need a constant renewal of faith and patience in an undertaking that must not fail or falter.

It may be truly said that this day marks the beginning of a glorious adventure which is being watched by all medical educators and by all in this country who are concerned with the public health. To a surpassing degree it is the project of the people of North Carolina. It is worthy of the principle enunciated by one of your former presidents that the "limits of the University campus are the borders of the State itself." In the concept and in today's commencement every citizen of North Carolina may feel pride and participation.

THE CHALLENGE TO THE NEW UNIVERSITY MEDICAL CENTER

JOSEPH T. WEARN, M.D.*

CLEVELAND, OHIO

It is a great honor that you have conferred on me today in asking me to take part in the dedication of the splendid new North Carolina Memorial Hospital and your fine medical center. To come home to my native state on this very special occasion touches me very deeply. I am proud to say that if you scrape off the ice and snow that I have accumulated in New England and wash off the mud I've picked up in the middle west, you'll find there is still a good coating of tar on both my heels.

We can all be very proud of our state legislature for its wisdom and vision in deciding upon the building of a beautiful hospital as a memorial to the men of North Carolina who have given their lives in the service of their country: a living memorial, a memorial that will perpetuate the high ideals of our honored dead for future generations, through the finest service to the people of this state. Undoubtedly there are many in this audience who, as I do, feel deeply the significance of the consecration of this building.

This superb new structure will now take its place with your fine new buildings for the Schools of Medicine, Dentistry, Nursing and Pharmacy, which are also to be dedicated on this impressive occasion. Together, under the leadership of the School of Medicine, and with your School of Public Health, you have now achieved the inauguration of a great new state medical center. The challenge is tremendous — the opportunity unlimited!

Emphasis on Quality

Traditionally, in the great medical centers of this country the medical school is the core or vital center of the entire group, and you are very fortunate to have here a medical school with the finest tradition and an established reputation for the quality of graduates from its two years of medical sciences. Of the great men who have contributed to making this school outstanding —well known to you all, of course — are Whitehead and his three distinguished pu-

Presented at the dedication of the North Carolina Memorial Hospital, Chapel Hill, April 23, 1953.

*Dean of the School of Medicine and Professor of Medicine, Western Reserve University, Cleveland, Ohio.

pils Manning, Mangum, and MacNider. Each of these men served as dean, covering the half century from 1890 to 1940. It was my good fortune to have met these last three and to have had Billy MacNider as a lifelong friend — indeed, we were among his many friends who, every spring, received by special delivery, a tenderly wrapped moist bundle of daffodils and camellias. His 50 years of devoted and loyal service as a teacher and investigator left an imprint on this school which contributed greatly to its fine tradition, and the action of the trustees in naming the Science Building for William de B. MacNider was eminently fitting.

Although for more than 40 years North Carolina offered only two years of the medical sciences, that training was so excellent that the deans of the country's leading medical schools were always ready to accept the graduates as transfer students. I remember hearing Dr. William Pepper, dean of the School of Medicine of the University of Pennsylvania, say: "I am always glad to get those boys from North Carolina. You can depend on them to give a good accounting of themselves!"

Once when I was teaching at Harvard, I was asked by Billy MacNider to support his recommendation for the admission of one of his boys to the third year class of the Harvard Medical School. Although at that time I didn't know the boy well, I agreed without a qualm. Subsequently, I had the privilege of having this boy as a student, still later I had him as an intern, and when I went to Cleveland I was fortunate enough to persuade him to come with me as my first chief resident physician. This boy was none other than Reece Berryhill, dean of your school since 1941.

In other words, your school has always stood for *quality*—in teaching and research. Now, with the completion of the North Carolina Memorial Hospital, and the resumption of the full four-year course, that same emphasis on quality will not only be maintained, but the standards will be even higher. The quality of the graduates of a medical school is determined by its faculty. The quality of research and the quality of leadership are determined by the faculty. The whole country has been watching with keen interest the faculty that you have been bringing to Chapel Hill. If I may be permitted to say so, they are men of vision, courage and ability, recognized as outstanding clinicians, teachers, and investigators. Therefore, they can be depended upon to set the highest standards of medical care, of research, and of teaching.

Influence on Medical Standards

Already the impact of this school has been felt throughout the state. In fact, hospitals in several of the largest cities in the state have requested the medical school to help them arrange their intern and residency programs with standards at such level that the school could recommend them to their graduates for house officer training. This is but a beginning, and illustrates the influence that the school is already having upon medical standards in the state. As the graduates of your new four-year program begin to go out into the rural as well as the urban areas, this influence will undoubtedly grow, and more hospitals, large and small, will turn to the University for guidance and leadership.

Research

It is only through a faculty that insists upon the privilege, the facilities, the means of conducting scientific investigation, that progress in medicine can be made—indeed such research activities make the difference between a living and a dead school. It is from the laboratories of the leading medical schools of this country that have come the recent astounding advances in the knowledge and treatment of disease. There can be no question but that the splendid faculty of your school will continue to make steady contributions in this all important and essential field.

Such a live and alert faculty serving as the staff of your new hospital will also demand, and be satisfied with nothing less than, the highest standards in medical care. In the wards and dispensaries of the hospital, where a large part of the teaching of your third and fourth year men will be carried out, the students will have the opportunity to see the wisest and best possible care of the patient, in the broadest sense of that term. Here, too, they will see actual clinical research in progress and come to realize its full value in terms of the patient, for they will have demonstrated before their eyes, the direct benefits of research to the patient.

The Hospital—Focal Point of Medical Care

The modern hospital, in its wards and out-

patient clinics, is also the center where all those who contribute to medical care, converge—the physician, the dentist, the nurse, and the social worker. And here it is that this care must be integrated under the guidance of the physician. In this day of specialization, it must always be borne in mind that there is a very real danger that medical care may become so departmentalized that the care of the patient as a human being may be lost sight of. Much criticism of medical and nursing care is to the effect that in the rush of scientific progress, the true "spirit of service" has been forgotten. As Francis Peabody[1] stated:

"Hospitals, like other institutions, founded with highest humane ideals, are apt to deteriorate into dehumanized machines, and even the physician who has the patient's welfare most at heart finds that pressure of work forces him to give most of his attention to the critically sick and to those whose diseases are a menace to the public health."

He goes on to say:

"The treatment of a disease may be entirely impersonal; the care of a patient must be completely personal. The significance of the intimate personal relationship between physician and patient cannot be too strongly emphasized, for in an extraordinarily large number of cases, both diagnosis and treatment are directly dependent upon it. What is spoken of as a "Clinical Picture" is not just the photograph of a man sick in bed, it is an impressionistic painting of the patient surrounded by his house, his work, his relations, his friends, his joys, sorrows, hopes and fears."

What Dr. Peabody said regarding the importance of the total human picture to the physician, holds equally strongly for nurse, social worker, and indeed for all who minister to the needs of the patient in a large modern hospital.

Disappearing diseases

In the past two decades a very striking change has been taking place in the diseases to be found in the wards of our hospitals. No longer does one see on the pediatric ward children with rickets or scurvy; and tuberculous joints, acute mastoiditis, and diphtheria are few and far between. Pernicious anemia is rare indeed, and those who are studying it are having difficulty in finding a single untreated case. With the introduction of the sulfonamides and antibiotics, still another large group — the bacterial, and especially coccal diseases— are rapidly disappearing from civilian hospitals. Streptococcus and staphylococcus septicemia are now rarities—even lobar pneumonia is becoming so infrequent that the house staff comments when one with this disease is admitted. A few weeks ago when making a ward visit with my house staff and students, we spent some time at the bedside of a patient with lobar pneumonia. One of my residents finally said, "Would you mind telling us something about this so-called crisis in pneumonia that the books speak of?" Not a single one of the residents or students present had ever witnessed a natural crisis in pneumonia. And later, I found that not a single member of my entire house staff had ever seen one. This is testimony indeed, to the effectiveness of the antibiotics in this disease.

These diseases used to fill our hospitals to overflowing, while entire wards were set aside for typhoid fever and lobar pneumonia. In their stead we now have patients with heart failure, arthritis, hypertension, gastric disease, neuroses and many diagnostic problems, and, of course, malignant and virus diseases, and others. It is devoutly to be hoped that the elimination or cure of one disease after another will continue in the future as it has in the past, and here we have the most dramatic proof of the effectiveness of our researches in the field of medicine, biology, and public health.

Where are all these patients with the diseases that used to fill our wards? How can we train our young physicians, house staff, and students to recognize and treat this large group of diseases? The answer is twofold: First, as all of you well know, certain diseases such as rickets, typhoid, diphtheria are preventable and, therefore, almost nonexistent. Second, those with diseases for which effective cures or relief have been found, go to our outpatient departments or to their family physicians while ambulatory, and, as a result of effective treatment, no longer turn up in any number in our hospital wards.

Outpatient clinics

This poses the question to the professional staffs, the faculties of the school of medicine, and the school of nursing as to where their students and resident staff can best learn to recognize and properly treat these disappearing diseases. At the present time these cases are being seen in their earliest stages in doctors' offices and in outpatient clinics. Therefore, it is in the clinics, where the patients are ambulatory, that a hospital such as yours is going to have to carry on a great

part of the care and teaching of this large segment of diseases. Here also in ambulatory patients, a large percentage of emotional problems and neuroses will be seen, and in the earlier stages, when recognition and treatment can be most effective.

It is in the ambulatory state, too, that preventive medicine has its origin, for it is here that the various vaccines and immunizations are administered; and it should be, and sooner or later will be, here in the ambulatory clinics that the broad program of protective medicine, with its periodic physical examinations, tuberculosis case-finding, child guidance clinics, Papanicaloau techniques, nutrition, dental and other clinics, all keyed to the prevention of disease and the promotion of health, will be carried out. Such clinics will be increasingly important in the future, for comprehensive medical care and for teaching.

School of Dentistry

Your School of Dentistry is to be congratulated not only on its new building, but also on the fact that it is starting out with a free slate, unhampered by tradition. I say this advisedly, because many of the dental schools in the past have been bound too rigidly to a curriculum which has focused too intently upon teaching techniques at the expense of opportunity for the students to take a more active part in their own education and thereby equip themselves for performing a broader service. Dental educators may quite rightly ask themselves if the time is not at hand to place greater emphasis upon the importance of research as a means of solving some of the problems facing the dental profession today.

School of Nursing

Your medical center is to be warmly congratulated upon the inauguration of a School of Nursing as an integral part of its group. Under the leadership of Miss Kemble, you will have a great advantage in starting with the experience, accomplishments, and errors of your sister schools to help you chart a pioneering course. The challenge to the nursing profession was never greater than it is today, with the many new fields which are now open—the whole field of public health, industry, teaching, administration, military, Veterans Administration, and last—but by no means least—the care of the sick in hospitals and at home. The last mentioned field has, in turn, developed many specialties, such as the neuroses and emotional behavior problems, care of the aged, which is rapidly assuming larger proportions, and the treatment of chronic illness, to mention but a few.

The grave shortage of nurses which confronts the whole country today and which has caused the closing of wards in hospitals everywhere, is an urgent and critical problem. While it would be wholly unfair to expect the nurses to solve it alone, the country nevertheless looks to the nurses for constructive and original ideas that may help this situation. Certainly, there are not enough nurses to meet the demands of today; and it is becoming increasingly obvious that less highly trained personnel will have to be utilized and that nurses will have to take a real part in training, working with, and directing such nonprofessional personnel. The integration of the various strata of personnel will call for careful study and wise handling, for it is a problem of great importance in the care of the patient, and one that must be faced without delay. Like the physician, the nurse must retain the true "spirit of service." The challenge is tremendous, and you have the opportunity of setting some standards and doing real pioneer work.

These Helped Bring it to Pass

Such a magnificent medical center as the State of North Carolina has now erected in Chapel Hill did not suddenly spring into being because Aladdin rubbed his lamp. Behind all of this there had first to be vision and imagination. Then there had to follow patience and enthusiasm and years of additional work—in short, a continuing zeal to make that vision become a reality.

Great credit for this amazing achievement goes to the late Governor J. M. Broughton who appointed a commission in 1944 to study the health needs of the state and to make recommendations to the General Assembly of 1945; to Mr. Clarence Poe, able chairman of the Broughton Commission; to the successive General Assemblies from 1947-51, which had the wisdom to appropriate most generous sums to carry out the program; to the state professional societies; to the Good Health Association and, indeed, to the interest, stimulus and leadership of all the people in North Carolina. I am convinced that great credit rightly goes to these men and groups of people, and I pay the warmest

tribute to every one who worked so untiringly for this splendid cause.

In a tremendous undertaking of this sort which has doubtless been many years in the making, one cannot single out any one individual who has brought this great idea to fruition. Undoubtedly, your whole professional group here has contributed enormously through the years. I know that this was the life dream of Dr. MacNider, and I am equally sure that your present Dean of Medicine has been working unceasingly during the past 12 years to bring this conception to achievement. Certainly Dr. Berryhill has had the vision of what a four-year medical school the new Memorial Hospital, and indeed the entire medical center could do to raise the standards of health throughout the State of North Carolina.

The Challenge

You are now prepared to offer a total health service to your state with your four year school of medicine, with its new facilities, your new Memorial Hospital with its psychiatric wing, your School of Public Health, your new School of Nursing, your new School of Dentistry and Pharmacy. What a splendid roster, what a challenge to you who hold the vital posts in this center to lead and serve!

Reference

1. Peabody, F. W.: Care of Patient, J.A.M.A. 88:877-882 (March 2) 1927.

If civilization is to be saved from catastrophe, the ethical consciousness of each of us must be greatly strengthened, renewed, and improved. The wellsprings of good will lie deep within the spirit of man, not in the outer, public world. Science discloses the imperative need; something that transcends science must assist men to respond to this challenge of our time. The scientist is just as responsible for failure or success along these lines as the nonscientist — neither more or less responsible than every other intelligent citizen.—Kirtley F. Mather: The Problem of Antiscientific Trends Today, Science 115:534 (May 16) 1952.

The scientist should take a firm stand as a champion of intellectual freedom. He must not adopt the defeatist conclusion that the only sure way to avoid penalty for unpopular opinion is to express no opinion at all. Regardless of the odds against him, he must do his best to change the attitudes of mind of those who will yet listen to his words. Education for life in a free society must continue, and scientists have a great responsibility for its success.—Kirtley F. Mather: The Problem of Antiscientific Trends Today, Science 115:536 (May 16) 1952.

THERAPEUTIC DERMATITIS

GEORGE W. JAMES, M.D.

WINSTON-SALEM

Therapeutic dermatitis[1] is a cutaneous eruption brought about by inappropriate treatment. It may be produced through many avenues. It may be due to the desire of the patient to "heal himself," or it may be iatrogenic. Too often we see patients who, in their efforts to "put something on the skin," produce dermatitis which is more disabling and severe than the original disorder which they were attempting to treat. Just as one does not drive a thumbtack with a sledge hammer, much therapeutic dermatitis can be avoided by a more careful selection of agents in treating cutaneous disorders. Admitted that some risk is usually involved in prescribing any agent, the risk and dangers must be weighed against the therapeutic index of the drug, as well as against the seriousness of the disease being treated.

It should be understood that the dermatologist cannot approach this problem entirely unbiased, since he encounters the patients who get into trouble with the various remedies. However, the incidence of dermatitis caused by overtreatment is such that much can be done to reduce this unnecessary complication of cutaneous disease.

Self-Styled Therapists

The patient

One of the greatest sources of therapeutic dermatitis arises from the almost universal desire on the part of the patient to treat himself. Patients not infrequently apply medicaments from the medicine cabinet which were originally prescribed for an entirely different disorder. We feel that the physician should strive to prescribe only the amount of agent needed for the presenting eruption. He should avoid sensitizing agents as much as possible in choosing his therapeutic agents. Use of the refill notation on prescriptions is highly recommended.

Family and friends

If the patient does not find some "leftovers" in the medicine cabinet, he readily en-

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counters some member of the family, neighbor, or other benevolent soul who insists that he try the ointment which did so much for them. For some reason the laity seems to think that all skin disorders are the same and therefore will respond to the same type treatment. We, as physicians and teachers, must strive to convey to the public that it is unwise to apply to the skin topical agents that have been prescribed for other patients, particularly if they contain sensitizers or other potentially harmful constituents.

The druggist

Those who escape self-prescribed medication as well as that prescribed by their neighbors have only to visit the local druggist who dispenses "over the counter." His prescriptions often produce untoward reactions of varying degrees. It is encouraging that there are many druggists who keep themselves busy carrying out the duties for which they are trained and do not attempt the pseudo-practice of medicine over the counter. We feel that the medical profession should establish better liaison with the pharmacists and explain the complications and dangers of over-the-counter precriptions for topical therapeutic agents.

In a recent discussion with members of the Winston-Salem Drug Club, the need for a better understanding of the problems which are of mutual interest to the physician and druggist was evident. Especially is this need evident to the physician who has the opportunity to evaluate the many problems confronting the pharmacist. There is also a need for more rigid control of topical agents which we hope in the not too distant future will receive at least the attention that oral and parenteral agents are receiving today. We are fully aware of the pressure brought to bear on the druggist by the patient who wants "something for my itch"; however, pressure is no justification for the attempt to treat a disease process by one who is not trained in this field.

Cure-Alls

The newspaper and radio—and to some extent television—are contributing to the incidence of therapeutic dermatitis. It is becoming increasingly difficult to turn on the radio for a weather or news report without hearing also some testimonial or other undocumented claims for various topical agents to "ditch the itch" or cure all cutaneous ills. So gullible is our population that seldom a day passes that we do not see patients who obtain some of these agents for their skin and thereby produce a therapeutic dermatitis. To be sure, we could save our skins both economically and physiologically if we could educate our patients to be aware of the many false claims made by the "cure-alls" and "money back guarantees" advocated by the patent medicine manufacturers.

Iatrogenic Factors

Any discussion of therapeutic dermatitis must include iatrogenic factors. It is my feeling that the pharmaceutical salesman may be playing a role by inducing the physician to prescribe multiple topical agents which often have not been properly evaluated. They advertise at a high pitch with samples, literature, dogmatic statements, and reprints. We should not allow the unproven claims of the detail man to influence us too greatly in choosing topical agents for dermatologic disorders. Most physicians appreciate the need for pharmacologic information about oral and parenteral medicaments, especially in regard to the indications, dosage, contraindications, and toxicity. However, many of these same physicians are not as critical in evaluating topical agents. We do not subscribe to "holding on to the old." However, the patient will be spared much therapeutic dermatitis if we add new topical agents to our therapeutic armamentarium with a more critical appraisal. Particularly should we have some information about the sensitizing potential and the other untoward reactions which the medicaments may produce.

Physicians, and to a large extent, the public, have learned not to prescribe a purgative for abdominal pain until at least a tentative diagnosis has been established. We may soon see the day when physicians, druggists, as well as the public will appreciate the need for an accurate diagnosis of skin disorders before purging the skin.

Not infrequently physicians allow the patient to talk them into prescribing over the telephone for various cutaneous disorders. Not only do they accept the patient's diagnosis, which is usually incorrect, but they also rob themselves of an opportunity to observe the skin and determine the stage of the dermatitis—a prerequisite to proper treatment

of the skin. It is imperative that the therapist know whether the dermatologic disorder is in an acute, subacute, or chronic stage before he initiates any topical therapy.

The patient must be made to realize that once damage to the skin has been done, treatment cannot take the place of natural reparative forces. Failure to appreciate this fact often causes the patient as well as the physician to be too ambitious in initiating topical therapy. This is often true in contact dermatitis, especially that produced by plants. I would like to condemn injections of poison ivy extract during the course of an acute attack of poison ivy dermatitis. Not only may they produce anaphylaxis, renal damage, and death, but not infrequently the cutaneous complications are prolonged and much more difficult to manage than the original disorder. An erythema multiforme may be superimposed on a simple poison ivy dermatitis by injections of rhus extract. Fortunately for the patient's sake, a good number of those who receive these injections do not have poison ivy dermatitis at the onset.

It is important to know the type of infectious agent we are dealing with in cutaneous disorders, since the initial treatment differs considerably with the various bacterial as well as mycotic infections. It is advantageous to select a chemotherapeutic agent or antibiotic to which the organism is known to be sensitive. Some of the mycotic diseases may be aggravated by the use of certain antibiotics.

Beneficial Therapy

I cannot agree entirely with Frazier[2] who recommends that "fresh water from the pipe is the best medium." However, I do feel that compresses, medicated baths, and at times lotions are the proper approach to acute dermatologic reactions. I have found that unless patients are given something to use on the skin as a compress or medicated bath in acute dermatoses, they will secure agents through improper channels and often choose medicaments that will produce a therapeutic dermatitis.

I have found that Aveeno* (colloidal oatmeal) is a most useful preparation during the acute stage of a dermatitis. This usually is well tolerated by the patient and does not obscure the morphologic features which are important in following and classifying any basic underlying dermatologic disorder. This preparation can be used as a compress, as a colloid bath, or as a cleansing agent. It is soothing to many patients with acute urticaria or pityriasis rosea, as well as the many exudative dermatoses. In our series of approximately 400 patients we have failed to note any untoward reactions to Aveeno, if it is properly used.

Necessary Precautions

The therapist should develop a more protective instinct for the skin in the presence of any cutaneous disorder, particularly an acute inflammation. Just as we try to protect the liver or other diseased organs, we should also try to eliminate exogenous as well as endogenous factors which would aggravate the abnormal or diseased skin. It should be remembered that the intact skin may tolerate many agents which, if applied to abrasions, will produce a therapeutic dermatitis.

It must be appreciated also that patients with dermatitis venenata must avoid the offending contactant. The physician must not overtreat the acute reaction, but choose soothing agents which are relatively free from chemical and sensitization reactions.

Too often stasis dermatitis is treated with various palliative agents without an adequate attempt to correct the underlying vascular disturbances. Many topical agents used over too long a period for a case of stasis dermatitis or ulcer may produce local as well as a generalized absorptive phenomenon or exfoliative dermatitis. One of the most frequent offenders is Furacin, which appears to be used rather indiscriminately. These reactions are most difficult to manage and tax the patience as well as the skill of the dermatologists.

Too strenuous treatment of a fungus infection may exacerbate the original disease and produce a rather explosive type of reaction. The so-called id reaction may be localized to the hands and feet, or it may be generalized. Many local preparations which have been recommended for fungus infections are entirely too potent for treating acute superficial fungus infections.

The pruritic ano-genital syndromes are common sources of untoward cutaneous reactions. The unwise selection of topical agents, plus the trauma induced by the patient, often causes a therapeutic dermatitis

*Supplied by Aveeno Corporation, 250 West 57 Street, New York 19, N. Y.

in those receiving treatment for pruritus ani et vulvi. Prolonged local treatment of hemorrhoids is likely to provoke sensitization reactions: The procaine derivatives are among the most common offenders.

It is encouraging that there has been a rather marked decrease in the topical use of sulfonamides. Penicillin ointment is seldom if ever indicated for topical use. Some of the other antibiotics unfortunately are used on the skin when an accurate diagnosis would have made their contraindications self evident.

Summary

The patient with a skin disorder can be spared much trouble if we teach him that his efforts to treat himself may do more harm than good. Much can be done to enlist the cooperation of the pharmacist in this educational campaign. He must be constantly reminded of the responsibility he assumes, as well as of the untoward reactions he may produce, by prescribing over the counter. Finally, we physicians must be more selective in our choice of therapeutic agents, striving to avoid sensitizers and chemicals that are likely to provoke untoward reactions. We must recognize the underlying causative factors in various skin eruptions and direct our efforts toward eliminating them instead of depending on palliative measures alone.

Once damage to the skin had been produced, time will be required for repair. Too drastic therapy usually prolongs rather than shortens the course of the cutaneous disorder. We must be more critical in our appraisal of many new agents, and we should never lose sight of the merits of the philosophy that "if we can do no good, be sure we do no harm."

References

1. Lane, C. G.: Therapeutic Dermatitis, New England J. Med. 246:77-81 (Jan.) 1952.
2. Frazier, C. N.: The Treatment of Acute Dermatitis; Guiding Principles, M. Clin. North America 36:1435-1443 (Sept.) 1952.

Osteoarthritis. It is important to remember that most patients with generalized osteoarthritis fear that they have rheumatoid arthritis, and a confident diagnosis, is often the most important step and may be the only treatment required. At least it may save the patient from the hazard of widespread dental extraction or some other witchhunt for focal sepsis, and even from the not inconsiderable risk of gold therapy.—Editorial, British Medical Journal 1:209 (Jan. 26) 1952.

A STUDY ON THERAPEUTIC EVALUATION OF ISONIAZID IN THE TREATMENT OF PULMONARY TUBERCULOSIS

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WILSON

Clinical studies of the hydrazid derivatives of isonicotinic acid were initiated at Eastern North Carolina Sanatorium on April 5, 1952. This investigation was directed toward determining the therapeutic value and toxic effects of this drug.

Materials

Ninety-two patients were studied. All patients had a positive sputum, and almost all had extensive, active, pulmonary tuberculosis. Many had previously been given one or more of the currently accepted treatments. The cases are classified in table 1.

Table 1
Classification of Cases

	No. Cases
Sex	
Male	60
Female	32
Race	
White	61
Negro	31
Average age 45.7 years	
Stage of disease	
Far advanced	71 (77%)
Moderately advanced	20 (21%)
Minimal	1 (1%)
Previous duration of disease	
6 months	20
6 to 12 months	19
1 to 2 years	31
2 or more years	22
Total no. cases	92

Table 2
Type and Duration of Therapy

Type	No. Cases
INAH alone*	30
INAH and Streptomycin	9
INAH, Streptomycin and PAS	53
Duration (months)	
11	2
10	82
5	8

*6 patients had received no other drug.

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‡Superintendent of the North Carolina Sanatoria.

Isoniazid has been given to 2 patients for 11 months, to 82 patients for 10 months, and to 8 patients for 5 months. (see table 2).

Most of the patients are still on Isoniazid at the present time. The dose was standardized at 3 to 4 mg. per kilogram of body weight. The drug was given twice daily, one dose in the morning before breakfast, the other at bedtime.

In the group treated with dihydrostreptomycin, Isoniazid and PAS combined, almost all patients (except the 2 with miliary disease and the 2 with tuberculous meningitis) recived 1 Gm. of streptomycin twice a week and 12 Gm. of PAS daily.

Results

General condition

Since the great majority (77 per cent) of the cases were far advanced improvements in the patient's general condition were the first results of therapy to be noted. Toxic systemic manifestations such as temperature elevation, asthenia, anorexia, weight loss, and malaise, in general showed significant amelioration within two or three weeks after Isoniazid was started. A sense of well-being, improved appetite, return of strength and energy, were noted early, followed by weight gain in about three or four weeks of treatment. Among this group (65 patients) the maximum weight gain was 38 pounds, the minimum 8 pounds, and the average 12 pounds.

In 17 of the 92 cases (19 per cent) marked improvement was noted. In 40 cases (43 per cent) slight symptomatic improvement was seen. Eight patients (9 per cent) showed slight temporary improvement. In 21 cases (23 per cent) the general condition was unchanged, and 6 patients (7 per cent) became worse while on therapy.

The first 2 patients were put on Isoniazid at the beginning of April, 1952. They were not told what they were being given, thereby eliminating any psychologic effect the drug might have. Both of these patients were in an extremely toxic condition, having far advanced, extensive, bilateral tuberculosis. Within three weeks an almost dramatic amelioration began.

Eighty-two patients were placed on Isoniazid on May 6, 1952. In the great majority of this group (65 cases) an improvement (moderate and mild) has been observed. It is interesting to note that 6 patients showed significant, prompt, and temporary elevation of temperature for the first five or six days (table 4), and then experienced a decline in temperature, which remained normal with continuation of therapy.

Table 3
Results of Isoniazid Treatment

General Condition	No. Cases
Markedly improved	17
Improved	40
Temporarily improved followed by relapse	8
Unchanged	21
Worse	6
Sputum	
Negative at administration of drug	11
Converted to negative in smear	12
Temporarily negative in smear	18
Remained positive	51

The group showing temporary improvement (8 cases) and many of the others showed a late recurrence of fever and other symptoms of tuberculosis after an average of five or six months of therapy (table 3). Defervescence was accompanied by an equally rapid reversal of toxic manifestations. On the other hand, recurrence also was paralleled by progressively increasing toxic manifestation of tuberculosis. This was explained on the basis of multiplication of non-sensitive Mycobacteria.

Effect on cough and sputum

Significant decrease in cough and in the amount of sputum has been noticed. In 12 instances (13 per cent) the sputum became negative on smear; only 3 were negative by culture. In 11 cases previously positive, sputum was negative at the beginning of drug administration.

In 18 cases (19 per cent) sputum smears became negative temporarily. In the majority (51 cases) sputum smears continued to be positive, although a decreased bacillary count was reported (table 3). In some cases, the smears continued to be negative, and in some, smears were negative for two or three months, only to become positive again.

Roentgenographic changes

Routinely, roentgenographic observations were made in all cases. Periodic films did not reveal changes comparable to those observed in the general condition of the patients. Complete roentgen clearing was not seen in our series. Twenty-three cases (25 per cent) showed slight and 17 (18 per cent) marked improvement. In only 2 cases did a cavity disappear, and in 40 cases (44 per cent)

Table 4
Roentgenographic Changes

Type of Therapy	Total No. Cases	Slightly Improved No.	Slightly Improved %	Markedly Improved No.	Markedly Improved %	Cavity Gone No.	Cavity Gone %	Unchanged No.	Unchanged %	Worse No.	Worse %
INAH alone	30	9	31	5	17	2	6	10	34	4	13
INAH and Streptomycin	9	4	48	2	23			3	33		
INAH, Streptomycin, PAS	53	10	18	10	18			27	50	6	11

films were unchanged. On the other hand, 10 patients changed for the worse.

Of the 17 patients showing marked improvement, 10 (58 per cent) were given combined therapy consisting of streptomycin, PAS, and INAH. Many patients in the group showing slight improvement became worse within five to six months after administration of Isoniazid, even though their general condition continued to improve. Of the 17 cases described as markedly improved, 1 with bilateral cavitation and with bacilli resistant to dihydrostreptomycin showed the cavity on one side closed, and it was possible to do a lobectomy on the opposite side. This patient's tuberculosis remains stable six months after surgery, in spite of the fact that Isoniazid was discontinued immediately after the operation because of suspected toxicity.

In another patient, acutely ill with extensive, exudative infiltration in the right upper and left lower lobes, Isoniazid was given alone. Marked improvement occurred, both radiologically and clinically, for the first eight months; after which the sputum, which had become negative for a short time, again became positive, and there was no further roentgen change. In the third case, a cavity disappeared roentgenologically.

In 4 cases new cavities appeared. In 3 cases old cavities were enlarged. In 2 cases the appearance of new exudative disease occurred during Isoniazid treatment.

Extrapulmonary tuberculosis (6 cases)

These patients, so classified, all had some degree of pulmonary tuberculosis in addition to the extrapulmonary disease. In 2 cases of tuberculosis meningitis, 1 of empyema, and 1 of bronchopleural fistula, Isoniazid was used with streptomycin and PAS. The patient with bronchopleural fistula and empyema improved, and lobectomy was done of that side. Good results were also noted in 1 case of tuberculous orchitis and in 1 of tuberculous fistula-in-ano.

Table 5
Extrapulmonary Tuberculosis

Diagnosis	No. Cases
Tuberculosis meningitis	2
Tuberculous empyema	1
Bronchopleural fistula and empyema	1
Orchitis	1
Fistula-in-ano	1

Table 6
Drug Toxicity

Toxic Manifestations	No. Cases	Drug Discontinued	Drug Continued
Persistent liver function disturbance (4+ cephalin flocculation test)	4	4	
Difficult micturition	2	1	1
Bilateral peroneal palsy	1	1	
Peripheral neuritis (in both legs)	1		1
Urticaria	1	1	
Hyperleukocytosis	6		6
Mental depression	6	4	2
Suicide	1	1	
Attempted suicide	1		1
Elevation of temperature	6		6
Total	29	12	17

Toxicity

In patients receiving Isoniazid, the cephalin flocculation test was used as a liver function test, and urine, blood, and sputum examinations were done routinely. All systems were watched closely for signs of intoxication. Some toxic effects have been noted (table 6). For instance, in one case showing satisfactory roentgenologic results, bilateral peroneal palsy with muscular atrophy immediately followed excisional surgery. It is true that this patient is extremely neurotic, but an organic neurologic complication has developed also. In this case, general anesthesia can be suspected of having precipitated the toxic side effect of the drug. In another case, a similar complication followed surgery, but was neither as severe nor as permanent. One patient given Isoniazid prior to surgery immediately after the operation manifested obsessions which continued for approximately two months. In this case also, surgical shock or general anesthesia can be suspected of being the precipitating factor.

Six patients experienced mental depression, one of whom committed suicide. A second patient attempted suicide, and 2 others had a complete depressive psychosis, that is, the symptoms abated when drug was discontinued and returned when it was resumed. In 4 other cases, some personality changes occurred. The patients became uncooperative and almost childish. In 2 cases difficult micturition was experienced.

Other toxic symptoms appeared as follows:

In 6 cases temporary initial rise in temperature; in 6 leukocytosis (between 20,000-25,000); in 1 urticaria developed; in 4 the cephalin flocculation test was 4 plus, causing the drug to be discontinued. Urine tests showed no change and no failing kidney function.

In 5 cases antihistaminic drugs were given during Isoniazid therapy, with no evidence of incompatibility. Administration of Prostigmine bromide failed to relieve difficult micturition in the 2 cases in which it was tried.

In a great majority of the cases the side effects due to drug toxicity appeared early in the course of treatment—almost all by the third or fourth week. In some cases toxic symptoms cleared after the drug was stopped and did not reappear when it was started again; but in others the opposite was true.

Results of Drug Combinations

Thirty of the 92 patients were given Isoniazid alone. Six of these 30 had received no previous chemotherapy. Nine of the 92 were given Isoniazid plus streptomycin. Fifty-three of the 92 were given all three drugs —streptomycin, Isoniazid, and PAS (table 2). The 9 patients given Isoiazid and streptomycin showed the highest percentage of roentgenographic improvement; 4 of them (48 per cent) showed slight to moderate improvement, and 2 (23 per cent) marked clinical and roentgenographic improvement.

Comment

Even though a number of studies have been published, it is thought that more knowledge and experience on this subject, coming from several different sources, is needed. We believe also that every investigator should continue to publish his own experiences until opinion has crystallized. In the past 10 years the treatment of tuberculosis, both medical and surgical, has advanced rapidly; but more investigations, more observations, and more time will be required before the underlying realities can be determined.

This clinical study reveals Isoniazid as another useful weapon in the treatment of tuberculosis, but not the final answer—that is, it has not proved that Isoniazid can sterilize host organisms from acid-fast bacilli. Even in the dose of 3 to 4 mg. per kilogram of weight used in this series of cases, certain significant toxic side effects occurred. Sensitivity studies were not available, but the clinical course, x-ray examinations, and sputum studies have given the impression that resistance to Isoniazid may develop within five to six months.

Isoniazid offers new hope to all tuberculous patients, but especially to those needing further medical or surgical treatment who are resistant to streptomycin. The drug is relatively inexpensive and can be given orally without causing serious gastrointestinal disturbances.

General experience recommends using Isoniazid in connection with another anti-tuberculosis drug, to prevent early resistance.

The toxicity of Isoniazid is a problem, in some cases (12 out of 92) indicating discontinuation.

Serious central nervous system side effects are more common in persons having an unstable personality or a history of previous psychotic episodes or convulsive disorders. Less serious toxic side effects have been seen in other systems of the body.

Summary

Isoniazid has been given to 92 patients in the Eastern North Carolina Sanatorium starting April 4, 1952 for a five to eleven months period. The great majority had received streptomycin and PAS previously. These investigations were directed toward the evaluation of therapeutic and toxic effects of the drug.

Because the great majority of the cases studied (77 per cent) were far advanced, the first results of therapy were seen on the general condition. Relief of the common toxic symptoms of tuberculosis occurred early. Specific respiratory symptoms were slower. Systemic toxic manifestations of tuberculosis abated almost dramatically within three to four weeks. In the following phase respiratory signs were diminished. Roentgenographic changes were not as significant as was the clinical improvement.

Clinical, and in some cases roentgenologic improvement gradually increased for about five or six months, after which either there was no further change or there was evidence of relapse.

Toxicity of the drug, especially on the central and peripheral nervous systems, is reported.

A TECHNIQUE OF SAPHENOUS VEIN STRIPPING

ALEXANDER WEBB, JR., M.D.

RALEIGH

The history of the surgical treatment of varicose veins presents variety in every respect. Enthusiastic response to each new mode of therapy denoted dissatisfaction with the then current type of treatment. It will be agreed, however, that each different surgical procedure represented progress. High ligation combined with multiple ligations and injections was the standard technique until 1945, when Hodge and associates[1] reminded us that stripping the saphenous vein insured the interruption of all communicating vessels. Prior to their paper, the generally accepted procedure was the tedious process of ligating each communicating vessel as it was identified by the many tourniquet tests. Admittedly, however, many incompetent communicating vessels were never recognized by the tourniquet tests, and worse, communications later became inadequate, causing the condition to recur below the *blow-out* of the communicating vein.

Since 1945, high ligation combined with stripping has become more and more generally accepted as the treatment best designed to give optimum results, or the least number of recurrences. Many vein-strippers have been designed since that time in an attempt to reduce the number of incisions and to lighten the laborious task of multiple incisions and closures. Best results seem to have come from designs following the intraluminal or original Babcock type of stripper, later modified by Linton[2], Myers[3], and others.

Technique

The ideal procedure is to strip each vein, be it greater or lesser saphenous, by a maximum of two incisions, one above and one below. The greatest technical complication has been the rupture of the main vein, necessitating an incision to look for the main vein again where it ruptured at the branch. The majority of strippers and stripping techniques have called for passage of the vein-stripper from the high ligation incision downward. If the anatomic structure is considered, it will be recognized at once that the branches diverge downward and the cups of the valves are so situated that a remnant may cause the advancing shaft of the stripper to impinge upon the valve.

The passage of the stripper upward would cause it to remain in the saphenous vein itself, because of the convergence of branches upward. Cups of the remnants of valves or a true valve itself will further allow the advancing stripper to proceed upward without difficulty. However, because the lumen of the vein is greater cephalad, passing the old-style stripper from below upward would cause the main vein to become inverted and possibly to rupture at the site of a large branch.

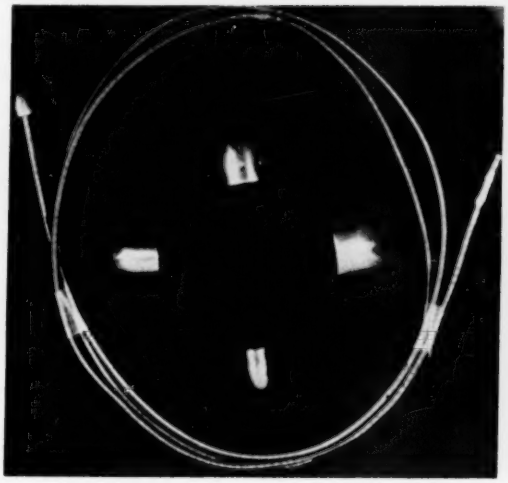

Figure 1

Instrument

I would like to present for your consideration the stripper shown in figure 1[4]*. It will be noticed that the flexible shaft is fully

Read before the Section on Surgery, Medical Society of the State of North Carolina, Pinehurst, May 6, 1952.

*A New Improved Webb Vein Stripper has been completed which is far better than the instrument illustrated in this article. This instrument can be obtained from Winchester Surgical Supply Company in Charlotte, N. C.

long enough to reach from the internal malleolus, the beginning of the greater saphenous vein, to the groin. The tip with the obturator cap is small enough to pass through a small vein without splitting it. The olive tips are placed after the obturator cap has been removed. The olive tip size is chosen in order that the vein may become pleated rather than inverted. I believe that this is of further advantage, because the actual rupture of the branch is much more conducive to thrombosis along its course than if the branch had actually been ligated and divided as previously. At present the distal end of the stripper is only a small olive tip. The newer models will have obturator caps at each end. The advantage of this instrument is that it can be passed with ease from the internal or external malleolus up to the proximal end of the greater or lesser saphenous veins. The vein should be tied tightly around the stripper, an olive tip of adequate size put in place, and the vein removed in its entirety through two incisions.

Method

Both legs are prepared from above the groin on all sides down to the toes. The legs are separated and placed on a cross-bar on the table. The drapes are held in place so that the entire legs are visualized from the groin to below the malleoli. The high ligation incision is made just medial to the pulsation of the femoral artery and as close to the crease of the inguinal region as possible. The saphenofemoral junction is much higher than has been described in most articles and textbooks. The tissues are divided cleanly and all bleeders are clamped as they are encountered. Extending the incision through the superficial fascia by blunt and sharp dissection, the greater saphenous vein is isolated and divided between clamps. By blunt dissection through areolar tissue the saphenous vein and its branches are isolated, and all branches are ligated with no. 000 plain catgut distal to the saphenous as they are encountered. Dissection is continued until the saphenofemoral junction is encountered. Here a no. 00 chromic ligature is placed, and all branches are divided without attempting to clamp, as there would be too many clamps for a small incision. The saphenous is then transfixed to insure against slipping. All excess saphenous vein is excised, and both sides of the femoral are inspected to be sure that no branch emerges below the level of the saphenofemoral junction.

Fig. 2. Incision is being made behind the external malleolus, with the foot markedly adducted.

The patient is then turned into the Trendelenburg position, and just lateral to the internal malleolus a longitudinal incision is made. By blunt dissection the saphenous vein is isolated and ligated distally with no. 000 plain catgut. A clamp is then placed under the saphenous which has not been divided, and the lumen is exposed through a small incision. The edge of the lumen is clamped with a mosquito clamp, the vein is completely divided, and two more mosquito clamps are placed so as to dilate the lumen of the vein completely. The obturator end of the stripper is then passed gently upward, allowing it to follow the course of the tortuous vein until the obturator pushes against the clamp on the distal portion of the saphenous vein in the inguinal region. The clamp is removed and the obturator is pushed through. A heavy ligature, either no. 1 chromic or heavy silk, is then placed just proximal to the obturator end. An appropriate-sized olive tip is chosen, the cap is removed, and the olive tip is placed on the stripper. All clamps are removed; the vein is then pulled downward by a steady but constant tension, and each branch is seen to rupture as it is passed beneath the skin. The entire vein is thus removed from ankle to groin. Next, if necessary, the lesser saphenous is isolated by rotating the ankle inwardly, and a longitudinal incision is made just posterior to the external malleolus (fig. 3). The vein is divided in the same fashion and mosquito clamps are applied. The obturator of the stripper is pushed to the popliteal space, where it is

Fig. 3. After obturator is palpated, incision is made with the knee flexed and rotated inward.

easily felt, and the lesser saphenous is treated in a like manner. The popliteal area is exposed by flexing the knee and pulling it inward. This technique obviates the necessity of turning the patient to the prone position. The patient has been kept in Trendelenburg position ever since the first low incision was made. Following all stripping, elastoplast bandage is placed from the base of the toes to the groin where it is held in place with adhesive strips. Beginning the same afternoon, the patient is made to walk every two hours while awake. At the end of one week enough elastoplast is removed to expose the groin incisions, and the groin sutures are removed. At the end of the second week all elastoplast and all sutures are removed. The patient then wears ace bandages for at least two weeks. At the end of one month any branches which have not sclerosed as the result of the stripping procedure are injected. The injections are repeated once every two weeks until all branches are obliterated.

Conclusions

The technique of high ligation followed by stripping has been followed by fewer recurrences than was the old technique of ligation followed by injection. This fact has been noted especially among the younger patients with subsequent pregnancies. It has been further noted that fewer injections are needed after this procedure in comparison with the old. The disability of high ligation and stripping is about seven to ten days as compared to two to four days following the old procedure. However, the combined time of stripping, ligation, and injection of branches has markedly reduced the morbidity for the patient, and recovery is faster and the prognosis more encouraging in these patients than was the case with earlier techniques.

References

1. Hodge, G. B., Grimson, K. S., and Schiebel, H. M.: Treatment of Varicose Veins by Stripping, Excision and Evulsion, Ann. Surg. 121:737-750 (May) 1945.
2. Barrow, D. W.: The Clinical Management of Varicose Veins, New York, Paul B. Hoeber, Inc., 1948.
3. Myers, T. T.: Personal communication.
4. Webb, A., Jr.: A Simplified Vein Stripper, Surgery 29: 276-277 (Feb.) 1951.

Discussion

Dr. Max Schiebel (Durham): It has been a privilege to hear Dr. Webb's presentation, and to view his ingenious method of removing the saphenous vein in its entirety.

I am particularly impressed by the manner and relative ease with which he has removed the lesser saphenous vein, because in many instances that has been a much more difficult problem to me than that posed by the greater saphenous vein.

In my opinion the important point in this discussion is not necessarily the variation in technique which he has presented, and of which I thoroughly approve, but the necessity of removing the entire vein, and, frequently many of its tributaries.

It has been seven years since Dr. Grimstone and I jointly presented a paper before the Southern Surgical Association on this subject of stripping varicose veins, combining it with early ambulation. Everyone knows that many years ago the stripping of varicose veins was first advised and then subsequently discarded because of the many complications associated with it.

Our opinion was based on 10 years' trial (1) of injections alone; (2) of high saphenous ligation and injection, either retrograde at the time of the operation, or postoperatively; (3) of high ligation with multiple interruptions, as advocated by Boxer and Mahone as early as 1938; and finally, of the method demonstrated here—high saphenous ligation with stripping of all varicose ends, or at least as many as possible. I have continued to be pleased with the latter procedure.

Through 1951, in my private work we have operated on 484 patients with varicose veins, many bilateral. Of these, only 70 were ligated and interrupted. I think that some of these operations were definite mistakes, as I will show a few moments later.

We have carried out high saphenous ligation, with interruptions of tributaries and stripping of the vein itself, and many of the superficial branches. In 16 cases a Linton procedure was added. The Linton procedure, which has to be done on some patients, involves a long, continuous incision extending from just below and inside the knee to the inside of the ankle. The skin is laid back on each side virtually to the anterior mid-line and to the posterior mid-line, and all the subcutaneous tissue, including its many veins, is removed. This procedure is necessary when there is a complete network of veins, almost like a knitted, mesh bag, lining the entire area from the muscle out to the skin.

Twenty-seven patients have had to have an ulcer grafted, either simultaneously or from 7 to 10 days later.

In the 70 patients who had ligations and inter-

ruptions alone, as Boxer and Mahoner advised, the condition was thought to be in the early stages.

In my opinion, none of the methods known today will completely and permanently eradicate all varicose veins.

Seventy-nine patients had secondary operations. Fifty-five of these 79 came from the 70 who had had only a high ligation and interruption. In our experience we have had to operate on 4 patients three times.

In the past four years we have done only 38 injections of veins. I am more and more convinced of the necessity of removing the vein in a great many of these cases.

Question: I'd like to ask Dr. Webb how long he keeps his patients in the hospital after this operation?

Dr. Webb: I still do a good many injections on these branches that Dr. Schiebel says he removes. The procedure takes a little longer, but I believe it is less disabling.

Patients are admitted the day before they are to be operated on; they walk at 4:00 o'clock the next afternoon, and about 85 per cent are discharged the next day. We instruct them to elevate the leg if they have pain, and if that doesn't work, to take Empirin and codeine.

EXPERIENCES IN TRANSPORTING CHILDREN WITH HEAD INJURIES

M. H. GRIMMETT, M.D.

KANNAPOLIS

This brief communication is concerned with the problems involved in the early transportation of children with head injuries. Because the consultation service of neurosurgeons is available only in the larger cities of our state, it is imperative that neurosurgical patients be transported to these larger centers early and successfully if proper treatment is to be carried out.

In any active pediatric practice, head injuries are encountered with disquieting frequency in both infants and older children. The family physician or pediatrician is usually the first person to see the child or infant with head injury and it therefore behooves this physician to sharpen his diagnostic acumen in respect to evaluation of such injuries.

In all cases of head injury it is imperative that the time element be given prime consideration. It is advisable, however, for the physician to do a careful history and physical examination. In the history, certain facts concerning unconsciousness, restlessness, nausea, and vomiting should be carefully recorded, as well as type, character, and distribution of any convulsion.

The physical examination should include careful search of the scalp and surrounding skin area for external injury. The ears, auditory canals, and eyes should be carefully examined. It is of particular interest to note areas of bleeding, ecchymosis, or any leakage of cerebrospinal fluid from portions of the ear or head. Ecchymotic areas have been considered of major importance in localizing the possible site of fracture.

In the author's experience the findings at routine external and fundoscopic examination of the eye have been most difficult to evaluate. Likewise, cranial nerve examination in the acute phase of the head injury has been unrewarding. However, in the cases where a slow and poor pulse has become rapid and weak, a grave prognosis resulted. The author has also observed that slow and regular respirations which change to rapid, shallow respirations likewise serve to remind one of the seriousness of the injury[1].

After it has been decided that the patient is a problem for a neurosurgeon, all haste is then made to have the child moved immediately to a larger center. In the interest of time, x-ray studies, such as skull films, are not done. Neither are spinal taps done, unless there is obvious evidence of severely increased intracranial pressure[2].

Profiting from his rather painfully noticeable mistakes, the author has adopted the following routine in moving seriously ill head injury patients to the nearest neurosurgical center:

1. All wounds are protected with loose, sterile dressings, and free drainage is maintained.

2. Intramuscular penicillin is given.

3. The patient is placed on an ambulance cot with head slightly elevated.

4. Every effort is made to maintain body temperature and to keep the patient warm.

5. An anesthetist, as well as a pediatrician or member of the house staff, accompanies the patient in the ambulance.

6. A resuscitator is placed in the ambulance to be used if necessary. A laryngoscope and an intratracheal catheter with a "pop-off" valve should also be available, as an adequate airway must be maintained at all times[3].

7. Oxygen, plasma, and blood should also be available in the ambulance and used according to the patient's needs.

8. An ice cap is placed to the patient's

head, and if bleeding or leakage of cerebrospinal fluid occurs, there is no objection to altering the patient's position to allow free drainage[4].

9. Respiratory and cardiac stimulants should be available in the ambulance for use as needed.

In the author's experience the transportation team can, with the above armamentarium, work with a fair margin of safety and efficiency in moving the patient with serious head injury. It has been observed that omission of any one of the above steps may prove disastrous.

This routine has been employed with success and is now being used not only for transportation of children and adults with head injuries, but also for other potential neurosurgical emergencies.

Appreciation is expressed to Drs. J. O. and Marguerite Williams for their constructive criticism in the preparation of this article.

References

1. De Sanctis, A. G., and Varga, C.: Handbook of Pediatric Medical Emergencies, St. Louis, C. V. Mosby Co., 1951.
2. Watson, G. A.: Personal correspondence.
3. Brenneman, J.: Head Injuries, Hagerstown, Md., W. F. Pryor Co., 1944, vol. 4.
4. Evans, J. P.: Acute Head Injury, Springfield, Ill., Charles C Thomas, 1950.

Nation's Worst Accident Toll

More than two million casualties, the worst automobile accident toll in the nation's history, were recorded in 1952, according to figures released recently by The Travelers Insurance Companies.

Last year's traffic deaths totaled 37,600, an increase of 500 over the 1951 mark. The injury count soared to 2,090,000, more than 127,000 over 1951, the Hartford firm reported.

The most dangerous mistake in driving last year was excessive speed. Speed killed 13,430 persons and injured nearly 600,000, according to the report. Drivers under 25 years old were involved in almost 25 per cent of the year's fatal accidents although they constitute only about 15 per cent of the total of all drivers.

Vitamins for Resistance to Stress

Efficient functioning of the body in emergencies or under other conditions of stress is to a great extent dependent on adequate nutrition. Drs. Robert S. Goodhart and Norman Jolliffe, writing in **The Merck Report,** point out that both experimental animals and man, when subjected to low oxygen tension, cold, or other acute stress, show increased requirements for vitamin C. For this reason, liberal quantities of fruits and juices containing this vitamin are recommended for persons who may be exposed to such conditions. Several of the B vitamins also seem to be involved in the complicated reactions of the body to both acute and chronic stress.

(Goodhart, Robert S., and Jolliffe, Norman: Vitamins and Other Nutrients in Adaptation to Stress, **The Merck Report,** 61:4:7-10, (1952).

THREE DECISIONS FOR HEALTH OFFICERS*

J. W. R. NORTON, M.D., M.P.H., F.A.C.P., F.A.P.H.A.
RALEIGH

In the never-ending war against the cripplers and killers of mankind—since we can only reduce decay and postpone death—we practitioners of general public health must continually readjust our limited resources to assure their wisest use. It is my purpose to discuss three roadfork choices that we face: generalized versus categorical emphasis, financial support, and the shift in emphasis to non-communicable diseases.

Specialization Should Aid, Not Crowd Out, General Public Health Practice

Any medical section or group is subject to the same mistakes that have been made by the profession as a whole. For the past two generations the medical profession has devoted its energies to the training of specialists. Phenomenal progress has been made in medical science partly through their concentrated effort. It has been learned, however, that the pendulum has swung too far in the direction of specialized medicine, and that domination of the profession by a few specialists creates bad public relations. The trend is now toward the development and appreciation of general practitioners.

Most of the public health disciplines have fostered state and national organizations for strengthening and stabilizing their respective fields of practice. The attainment of definite professional status in the disciplines engaged in the public health program is a worthy ambition. Care should be taken, however, not to destroy the essential spirit of teamwork that should mark the generalized program. If the practitioner of general public health is eclipsed by categorical specialists, we may expect to encounter the same difficulties from which private medical practice is now slowly emerging, no matter how competent scientifically we become. Generalized public health practice must remain supreme or we shall deserve the public disfavor that the medical profession suffered when the work and voice of the family doctor went unheeded and unsung.

There are already evidences of overem-

*Chairman's address, Health Officers' Section, American Public Health Association, Southern Branch, Annual Meeting, Atlanta, Georgia, April 23, 1953.

phasis on specialization and the categorical approach. Our greatest need is for able general practitioners of public health. Specialists and categorical programs can assist in providing, but definitely should not be allowed to dominate or crowd out, generalized services. Meeting the public health needs of all the people must not be subordinated to the need of a few for specialists or to the self-interest of categorical staffs and boards, public or private.

As health directors, we must keep informed in general medicine and in all health disciplines, and promote teamwork within the staff and with all participating individuals and agencies. The physician, nurse, dentist, veterinarian, sanitarian, engineer, laboratory worker, health educator, nutritionist, and others constituting the nucleus of the public health team, must cooperate with their counterparts in private practice and in the voluntary agencies. All that elevates the general living standard of a people promotes good health. Schools, roads, electricity, telephones, housing, agriculture, industry, and welfare services should not be overlooked as we build hospitals or train better personnel and encourage their equitable distribution. It is the part of professional wisdom to participate in constructive community enterprises.

The health officer, as an exponent of generalized public health practice and the nominal leader of the health department team, can guide trends or he can repeat the family doctor's mistake of allowing domination by a few ultraspecialists who have lost touch with, and lack the confidence of the public. This leadership must be informed, sympathetic, stimulating and inspiring—desirable and desired.

Smooth Budgetary Flexibility Necessary

Since 1936 health officers have made prompt and economical adjustments to the upward spiral of supporting funds. Even with our present skeleton staffs and meager finances, we may have to face a leveling off or even retrenchment. Are we laying the groundwork for public understanding of the soundness of investing in progressive, long-range, economical preventive programs, or will we allow those with more dramatic, immediate, and panicky demands to undermine public health support by charting a short-sighted policy?

We health officers know that it is economical to invest modest sums in sound preventive programs, and thereby escape the larger costs of illness, injury, loss of productiveness, and premature death. Are we explaining this adequately, along with providing services? Are we making a periodic inventory and analysis—an ever current public health diagnosis — retraining, amending methods, shifting personnel and program, and always investing where the most profitable dividends in health reasonably can be expected for our supporters? Only insofar as we meet current and long-range local health needs, can we invest wisely and deserve the understanding and continuing aid of the taxpayer. The same wisdom exercised by the health officer in guiding an expanding program is needed in a period of leveling off or retrenchment to insure the least possible confusion, lag, disruption, and suffering.

Noncommunicable Diseases and Accidents

Chronic degenerative diseases and accidents have now become the leading killers—tuberculosis remaining as the lone exception. With increased planning for parenthood, better prenatal, obstetric and child care, school health work, environmental sanitation, nutrition, immunization, diagnosis, treatment and hospitalization, the communicable diseases have retreated from their position as leading killers, and life expectancy has been lengthened. Even the average age at death from certain communicable disease killers such as tuberculosis has been postponed. How much better it is to die from cancer or a heart attack at 60 or 80 than from the diarrheas and dysenteries in infancy, from diphtheria or whooping cough at 2 or 10, from malaria or typhoid in the teens, or from syphilis, pneumonia, or tuberculosis in early adulthood!

More effective, economical, and time-saving methods of control permit the same staff to maintain a relatively impermeable dike against the flood of communicable diseases and thereby free a hand to help stem the torrent that eventually engulfs all into ineffectiveness and death.

We may refer properly to our present knowledge and methods of controlling these later killers—diseases of the heart and blood vessels, cancer, nephritis, diabetes, mental disorders, accidents — as primitive. The same patient, persevering, scientific, and ethical approach that developed our epidem-

iologic defense against the communicable diseases to a point of reasonable effectiveness should eventually be successful against the leading killers of today.

Our methods of combating cancer, cardiovascular diseases, and other leading killers can be developed under the guidance, and with the happy participation, of private medical practitioners. The public health diagnosis of the need in this field has been made, and private medical consultation should guide the methods of prevention, early diagnosis, and control as we proceed together. Our experience, so far, has demonstrated that prevention and control are good, not only for the public, but for private practice. Just as no wise physician would choose to practice where the clock had been turned back in communicable disease control, each new step toward the prevention or early diagnosis of present leading killers will make his practice more satisfying — professionally, personally, financially.

Research is vital. Early diagnosis followed by prompt and improved treatment has proved useful. Mass screening techniques and multiple tests may expedite early case finding in the degenerative diseases as they have in syphilis and tuberculosis. Improved nutritional practice and the education of individuals and groups are basic. At no time have we ever done all we knew should be done. Putting newly acquired scientific knowledge into prompt general use will save many lives. The best medical leaders today agree that public health should be progressive and dynamic—not static. The need for reasonable and ethical changes is constant in community, family, and individual health care, and in public health just as in private practice. Public health is not limited to the care of the indigent nor to the control of communicable diseses. Making the most rapid progress possible against the leading cripplers and killers of today requires full information, understanding, and participation by all medical and assisting personnel. As quickly as possible we must eliminate the half-century lag that lies between the development of relatively effective communicable disease control and the control of the present-day leading killers.

Summary

We face many decisions as health officers now, and we shall always have to make choices. If we decide wisely and proceed with courage and vision in the three areas discussed briefly here, the isolation and elimination of some of the succeeding problems will be quickened. Emphasis on, and appreciation for, general public health practice through local health departments serving the nation constitutes the best antidote against over specialization, centralization and excessive overhead, with loss of public support.

Flexibility, selectivity, and adaptability of budget, personnel and program, based on a currently accurate diagnosis of health needs and ability to pay for them, assures the utmost health return, regardless of whether the financial support is upward, leveling off, or downward.

Since health officers and their teammates have made a public health diagnosis and are obtaining continuing private medical consultation, we should proceed against the noncommunicable diseases and accidents in an efficient, economical, and effective way. The methods adopted should always be ethical and deserve the support of the medical profession and the public. In fact, the scientific procedures developed by pioneers in communicable disease control should enable a speeding up of our control of chronic degenerative diseases and accidents, provided we proceed with understanding teamwork and are imbued with the same unselfish zeal, determination, and enthusiasm.

It is altogether fallacious to suggest that continuance of medical missions and further indoctrination of the people of India and China with modern techniques of public health will permit them suddenly to acquire the low death rate of the United States, with a resulting "population explosion" that would have dire consequences. The trend of the recent past is far more likely to continue. Gradually, the death rate will continue to decline and at the same time the birth rate, lagging somewhat behind, will be reduced.—Kirtley F. Mather: The Problem of Anti-scientific Trends Today, Science 115:535 (May 16) 1952.

Tuberculosis continues to exert a greater influence upon the health and welfare of mankind than does perhaps any other infectious disease. It is a disease which frequently occurs during the early adult years of life and significantly during the economically productive years. Tuberculosis affects not only the patient as an individual but also influences the patient's entire family. The future activities and the social progress of the patient and his family are frequently altered, sometimes for better and sometimes for worse. As a truly clinical disease, tuberculosis continues to be one of the most frequently missed diagnoses.—James M. Blake, M.D., N.Y.S. J. of Med., Feb. 1, 1952.

DR. W. I. ROYSTER'S MEDICAL MAXIMS

HUBERT A. ROYSTER, M.D.

RALEIGH

My father, Dr. W. I. Royster, practiced medicine in Raleigh for over 45 years. He retired in 1915 at three score and ten, but lived fifteen years longer, finally passing away in 1930 at the ripe old age of 85.

He was possessed of extraordinary intellectual attainments, endowed with a philosophical turn of mind, tinctured with the saving grace of wit and humor; above all, he was a wise and learned physician. He read much, wrote little, and published less, but he talked well and abundantly, to the great benefit of his patients, students, and friends.

I came upon the scene to associate with my father when he was 50 years old, and for 10 years I was engaged with him in general practice. That was the most valuable experience of my entire career, and when in 1906 I restricted my practice to surgery, I realized fully the advantage of that association.

Recently in cleaning out old desk drawers, I came across some of my father's written aphorisms, and others came to mind through my recollection of hearing them over many years. Those that follow have been culled from both of these sources.

* * *

What an antiseptic is a pure life!

* * *

Be independent; don't let anybody own you—or your opinions.

* * *

Sometimes a good forgettery is more useful than a good memory.

* * *

A so-called "iron constitution" is apt to rust quickly on exposure to the elements.

* * *

This is the kind of case in which whatever you may do is wrong.

* * *

In medicine there is hardly anything new, except what has been long forgotten. Even Hippocrates wrote a treatise on "Ancient Medicine."

* * *

Some are born sick, some achieve sickness and some have sickness thrust upon them. This is the science of public health in a nutshell.

* * *

To Dr. A. W. Knox who was operating on one of his patients and who spoke of a certain procedure which he had to do as a dernier ressort: Well, if that's so, then durn your resort!

* * *

Where one mistake is made by not knowing, 10 mistakes are made by not looking, and for 10 who look, there is one who observes.

* * *

Yes, it *is* deplorable how some doctors spoil their patients; but there is something worse than that—how some patients spoil their doctors!

* * *

The blood is the most important internal organ; the skin, the most important external organ; both are often slighted in diagnosis.

* * *

The leukemias are most dangerous diseases; in fact leukemia in general may be regarded as a *cancer of the blood.*

(This was found in the note-book of the late Dr. William de B. MacNider, one of my father's pupils, who was graduated from the University of North Carolina Medical Department at Raleigh in 1903; and who in a later comment said that this was believed to be the earliest expression of this observation).

* * *

Experience may be the best teacher, but some of us are poor pupils. I know a physician who practiced to a very advanced age and was revered for his enormous experience. That man had made the same mistakes every year for 60 years — and everybody called it experience.

* * *

Prognosis is a more difficult art than diagnosis. Physicians, who predict positively whether a patient will get well or not, or how long he will live, too often prove to be false prophets, bringing reproach upon themselves and upon the entire profession.

* * *

Always remember the wise words of Montaigne: "When a man is sick and gets well, one cannot say whether his recovery was on account of the remedies used, the lapse of time, or his grandmother's prayers."

* * *

To a group of students on ward rounds, including an intern who had just read the history of a patient and who was proceeding to give the pathologic and x-ray reports: One minute, please. Let us first take a look at the patient, ask one or two questions, perform a laying on of hands, and say a few prayers; and if your laboratory reports do not agree with our clinical findings, then so much the worse for the laboratory.

* * *

It seems appropriate to include the following paragraph, although it could scarcely be classified as a maxim, since it concerns scientific concepts and their relation to theology. In 1911, when father was 66 years of age, I asked him to put down in writing what I had often heard him discuss off-hand—his ideas upon the so-called conflict between science and religion. Here it is, as he wrote it:

Science has made and still is making war on theology, but never has attacked religion and never will, for that is impossible; the idea involves a contradiction of terms. The Christian believes there is a God, who created everything that is. Science concerns itself with facts and laws of things created; it studies the things God made, the Christian admits. How then can there be anything inimical in that toward the true idea of religion? The scientist may hold mistaken opinions, but they are relinquished as soon as proven erroneous, and so he goes on step by step until he reaches his goal—truth. The advance of science attacks theological doctrines, destroys them and goes on. So much the better. *A religious belief that cannot stand in the bright light of proven fact or law of the physical world, made by God, certainly ought not to be held by one who believes in and worships God.* "Religion is the life of God in the soul of man"; theology is what people think about religion. It may be true or untrue, but whether true or untrue, what one thinks about religion is not religion itself.

* * *

On the flyleaf of his notebook in 1874, my father had copied one of his favorite quotations, "The Apostrophe to Death," by Sir Walter Raleigh, placed there, no doubt, as a philosophical reflection upon the end we all must reach, and not as a pessimistic summary of the cases:

"O eloquent, just and mighty Death: Whom none could advise, Thou has persuaded; what none hast dared Thou hast done; and whom all the world hath flattered, Thou only has cast out of the world and despised. Thou hast drawn together all the far stretched greatness, all the pride, cruelty and ambition of man, and covered it over with these two narrow words: *Hic jacet.*"

Freedom and Security: Most of the freedoms that we hold so dear are relative freedoms, to be exercised only within more or less clearly defined limits. Some of them have to be abandoned or more sharply restricted in time of war, either hot or cold. The most basic freedom of all is intellectual freedom, the right of a man to think his own thoughts and announce them without fear to those who will listen to him. This is the freedom that is safeguarded by our Constitution's Bill of Rights, although there it is spelled out in terms of freedom of speech, of the press, of peaceful assembly, and of the freedom exercise of religion. It is, in fact, the very touchstone of democracy, the creator and preserver of the orderly flexibility that makes democracy so much more efficient and desirable than any autocracy. The real test of democracy is not applied by asking questions about the statements embodied in a nation's constitution or the presence or absence of ballot boxes and universal suffrage. If anyone wants to know whether the community, state, or nation in which he resides is truly democratic, let him ask this question: What actually happens to the member of an unpopular minority when he dares to speak his mind in opposition to the spokesmen of the popular majority?—Mather, K. F.: The Common Ground of Science and Politics, Science, 171 (Feb.) 1953.

Emotional problems: The common practice of discussing medical problems at the bedside on ward rounds tends to undermine morale. The patient hears fragments of the discussion, including ominous-sounding medical terms, and frequently gets the impression that the doctors are divided, uncertain and not in control of the situation. If the staff is fearful of the outcome of treatment, what hope remains for the helpless patient? These procedures may, at times, have a contagious, harmful effect on the morale and may culminate in a completely disturbed, uncooperative, complaining group of patients.—Captain David A. Hamburg, M.C., U.S.A., and others: Clinical Importance of Emotional Problems in the Care of Patients with Burns, New England J. Med. 248:356 (Feb. 26) 1953.

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"The prime object of the medical profession is to render service to humanity; reward or financial gain is a subordinate consideration. Whoever chooses this profession assumes the obligation to conduct himself in accord with its ideals."—Principles of Medical Ethics of the American Medical Association, Chapter 1, Section 1.

JULY, 1953

MALPRACTICE SUITS INCREASING IN ENGLAND

The *British Medical Journal* for May 23 tells of an unforeseen result that the socialization of Great Britain has had upon practicing physicians. A special correspondent, in discussing "Actions for Negligence," comments:

> The taking over of hospitals under the National Health Service has brought about a radical change in the whole attitude of the patient towards hospitals. Many in the past have grumbled if they were not treated at hospital in every way as they would have wished, but yet respected the hospital and its staff. Some of this respect has now gone. With it has gone an inherent unwillingness on the part of patients and their legal advisers to institute proceedings against local hospitals. The attitude nowadays is that they are suing the "State." The jury, too, are members of the public, and, just as the patient is less hesitant to allege negligence, so are they less hesitant to believe it.
>
> The passing into law of the Legal Aid and Advice Act, 1949, has made it possible for many people to bring actions which they could not previously have afforded. Who can blame a plaintiff for instituting proceedings in respect of injuries which he had undoubtedly received, when he thinks, as many do, that he is suing the State at the State's expense?

Doctors, as well as all other citizens of this country, should be thankful that the trend toward socialism in the United States has been at least slowed down, if not halted. It should not be forgotten, however, that eternal vigilance is the price of liberty.

* * *

COURTEOUS DRIVING— EFFECTIVE PUBLIC RELATIONS

The Reader's Digest for May has a story with a moral for doctors. The writer told of riding with a man who on a former trip had kept her in a state of panic by his reckless driving. On the second trip, he amazed her by driving carefully, giving the right of way to other drivers and to pedestrians, and receiving in return evidences of cordiality on every hand. When asked for an explanation, he told her that his change in driving habits was a hang-over of the presidential campaign. While he had Eisenhower-Nixon stickers on his car, he felt that it would not be good policy to provoke the wrath of other drivers and pedestrians lest they get mad at his candidates and vote against them. Therefore, he let others have the right of way, smiling and waving at them as he stopped or slowed down. The reaction was so gratifying that he had kept up the practice ever since.

The elementary rule of human nature which was discovered by this Eisenhower supporter should be well understood by doctors, whose cars bear emblems which mark them plainly as members of the medical profession. Their conduct while driving—whether rude and rash or courteous and careful—can influence the thinking of many people about the profession as a whole. Physicians who consistently practice courtesy while driving not only contribute to their own safety, but also help to increase the public's respect for the medical profession.

QUEEN ELIZABETH II

The coronation of young Elizabeth on June 2 claimed the attention and interest of the whole world. Since the Queen is a patron of the British Medical Association, it was quite fitting that the *British Medical Journal* for Saturday, May 30, was issued "In commemoration of the coronation of Her Majesty Queen Elizabeth II." The three leading articles were "Medicine in the Time of Queen Elizabeth I," "Medicine and the Crown," and "Medical and Scientific Exploits of King James IV of Scotland." The finest piece of writing in the whole journal, however, was the editorial on "The Queen," which said in part:

"With all her loyal subjects the doctors of Britain pay homage to their Queen at this supreme moment of her coronation at the heart of the British Commonwealth of Nations in the Abbey of Saint Peter. Like the Tudor Queen Elizabeth, she has come to the throne in a time of trouble and anxiety. But never in our history has a Queen ascended the throne so secure in the affections of her subjects . . . The Crown has become a symbol of steadfastness and stability, a force that keeps Britons united in the presence of jarring sects and conflicting opinions, a focus of allegiance and loyalty for peoples of diverse origins and beliefs. The smallest village now vies with the largest city in paying homage to our Queen with pageantry and bunting, and a gaiety that shows that England has not forgotten her appellation of merry. And beneath all those emotions which cluster round the conception of monarchy there is a deep affection for the person of the Queen as a young mother who in her family life represents something we like to think of as the enduring stuff in the British way of life."

* * *

DIGNITY OR COMFORT?

An editorial in the May issue of the *Journal of the Medical Association of Georgia* complains of the increasing number of physicians who, in the opinion of the editor, sacrifice their professional dignity for the sake of comfort in hot weather. Quoth the writer:

> The Medical Profession has long held a lofty and enviable position as one of the most respected and dignified of all professions. Certainly, the making of hospital rounds and house calls in slacks and sports shirts with open neck, short sleeves, and without necktie detracts greatly from the dignity not only of the physician but of the profession as a whole. Picture Sir William Osler in such raiment!

The familiar Latin quotation to the effect that the question of tastes is not debatable applies to clothing as well as to food. No doubt many respectable and respected phycians feel that, aside from the greater comfort, a clean, fresh sport shirt is almost as pleasing to the eye as is a wilted linen collar, a tie with the grease spot that inevitably forms at the knot after a day or two's wear in hot weather, and a face dripping with sweat.

As to the clinching argument—"Picture Sir William Osler in such raiment!"—those who read Dr. J. M. T. Finney's autobiography may recall that Finney spoke of Osler as "attired as usual in frock coat, striped trousers, top hat and with a rose in his buttonhole."[1] Most of the pictures of Osler in Cushing's biography show him thus attired, and also carrying a cane. This JOURNAL yields to none in admiration of Sir William; but it questions whether, if he were living today, he would not be guided by his great common sense and dress as comfortably as present-day fashions now mercifully permit.

1. Finney, J. M. T.: A Surgeon's Life, New York, G. P. Putnam's Sons, 1940, p. 95.

* * *

MR. JAMES T. BARNES HONORED

Since Jim Barnes was selected as the executive secretary of the Medical Society of the State of North Carolina, it has been noted by many that he has grown steadily in wisdom and in stature. His many friends will be gratified, but not at all surprised, to learn that at the meeting of the Board of Trustees of the American Medical Association in New York last month, Mr. Barnes was elected to membership on the Public Relations Advisory Committee of the A.M.A. This honor is well deserved, and is testimony to the grasp upon medical affairs that Mr. Barnes has achieved.

Committees and Organizations

COMMITTEE ON ANESTHESIA MORTALITY*

ORGANIZATION AND OBJECTIVES

The introduction of surgical anesthesia more than a century ago was admittedly one of the greatest blessings ever bestowed upon mankind. Yet shortly after this discovery it became apparent that drugs used to relieve pain were also capable of producing death. This fact has not limited the use of anesthesia, but has stimulated a constant search for better anesthetic agents and techniques in order that eventually the hazards of administering drugs designed to abolish pain will reach an irreducible minimum.

All physicians have at one time or another been present at the scene of, or have heard first-hand reports of tradegies associated with anesthesia. In spite of this, only rarely are the errors involved fully recognized and the exact mechanism of death accurately determined. Autopsies infrequently yield a satisfactory explanation. Many questions still remain unanswered following most of these accidents. What part did the premedication play? Were the anesthetic agents and techniques properly chosen? Was the patient properly oxygenated? When the patient's condition became worse, were the facilities adequate for the emergency, and were they properly used? Did the patient die from the effects of drugs used in resuscitation? What part did postanesthetic depression play in this death? Was death due to the anesthetic drug or to the person administering the drug? Was this death preventable, and if so by what methods?

Obviously, not all of these question can ever be fully answered, but it is felt that a detailed study will yield information which will give us an idea of the frequency of these tragedies and suggest steps to be taken to prevent their future occurrence. If one death can be prevented by such a study, the effort involved will not have been wasted.

Organization

With such ideas in mind, a committee from the North Carolina Society of Anesthesiologists was instructed to investigate ways and means of establishing a group which might study accidents involving anesthesia, render opinions on the principal factors implicated, and offer suggestions which might prevent their subsequent occurrence. The Committee on Maternal Welfare of the Medical Society of the State of North Carolina offered a program of action which had demonstrated its usefulness and efficiency for several years, and with which most of the physicians and hospitals of this state are familiar. Accordingly, recommendations were submitted to the Executive Council and House of Delegates of the Medical Society of the State of North Carolina proposing the establishment of a Committee on Anesthesia Mortality. This committee was to be composed of physicians in the state engaged in the practice of anesthesiology, surgery, medicine, obstetrics, pathology, and preventive medicine; and would follow the basic patterns of fact-finding already established by the Committee on Maternal Welfare. These recommendations were approved by the Executive Council and the House of Delegates; and the Committee on Anesthesia Mortality was officially established by the Medical Society of the State of North Carolina, at the annual meeting in Pinehurst, on May 11, 1953. This committee is now setting up a plan of action.

Objective

It is the aim of the Committee on Anesthesia Mortality to investigate deaths in this state occurring during the course of anesthesia or within the recovery period from anesthesia. To be included are accidents resulting from general, local, or spinal anesthesia which may occur in the hospital, office or home. Through the cooperation of the State Board of Health, reports of deaths in which anesthesia may be implicated will be forwarded to this committee. Then questionnaires will be sent out to the physicians concerned, with the hope that their cooperation will be forthcoming. If the response to the Committee on Maternal Welfare is any indication, we know that doctors will be anxious to cooperate and profit by the findings.

The committee is composed of the following members: David A. Davis, M.D., Chairman, Chapel Hill; Howard H. Bradshaw, M.D., Winston-Salem; J. Deryl Hart, M.D., Durham; Joseph S. Hiatt, M.D., Southern Pines; Frank R. Lock, M.D., Winston-Salem; Myron P. Rudolph, M.D., Raleigh; John C. Reece, M.D., Morganton; C. Ronald Stephen, M.D., Durham; Roscoe L. Wall, M.D., Winston-Salem; Nathan A. Womack, M.D., Chapel Hill.

*The name of this organization has been changed to Anesthesia Study Commission.

It is to be strongly emphasized that all data collected will be studied anonymously, and all names will be removed from the records, which will be kept for statistical purposes. This committee exists for the sole purpose of attempting to improve the standards of anesthesia in this state, and no person or group of persons will ever be singled out for condemnation or rebuke. The work of this committee can be valuable only if the complete cooperation of all parties concerned is secured. Any suggestions toward the improvement of its efforts would be most welcome. The committee wishes every physician, nurse, and hospital administrator in this state to feel that this program is being conducted for the benefit of their patients.

It is the desire of this committee that from time to time there be published in the NORTH CAROLINA MEDICAL JOURNAL a short presentation and discussion of problems which arise in anesthesia. To this end, case reports from the committee's files may be utilized. It is hoped that physicians throughout the state will refer to the committee any unusual cases or problems on which they would like a more or less authoritative opinion. Problems which do not end fatally make just as valuable material for discussion as those which result in deaths.

The committee wishes to express its thanks to all members of the Medical Society of the State of North Carolina for its formation and assistance, and hopes that it may benefit in some small way all of the physicians and patients of the state.

Committee on Anesthesia Mortality
DAVID A. DAVIS, M.D., Chairman

First Intramuscular Digitoxin Introduced

The first intramuscular digitoxin for safe predictable digitalization, called Digitaline Nativelle *Intramuscular*, has been introduced by Varick Pharmacal Company, a division of E. Fougera & Company, Inc. Digitaline Nativelle in tablet form and as an intravenous solution has been utilized by physicians for many years.

The company, pioneers in the isolation of digitoxin, announced that the new intramuscular form of this widely used cardiotonic is made possible by a special solvent that makes unnecessary the high alcoholic content of present digitoxin parenteral solutions which often give rise to pain and irritation upon injection.

Digitaline Nativelle Intramuscular is supplied in 1 and 2 cc. ampules, in boxes of 6 and 50. Each cc. provides 0.2 mg. of the oral preparation, providing an easy dose for dose switchover to oral medication.

BULLETIN BOARD

NEWS NOTES FROM THE DUKE UNIVERSITY SCHOOL OF MEDICINE

A special two-day forum on the most recent advances in anesthesia opened Duke University Medical School's annual postgraduate course in medicine here, June 22. The special program was designed to demonstrate the practical handling of patients who need anesthesia.

Guest lecturers were Dr. Howard M. Ausherman, chief of anesthesia, Veterans Hospital, Durham, and assistant professor of anesthesiology at Duke; and Dr. David A. Davis, professor of anesthesiology at the University of North Carolina Medical School.

Dr. C. R. Stephen, professor of anesthesiology at Duke, and Dr. Ruth C. Martin and Dr. William K. Nowill, assistant professors of anesthesiology at Duke, also addressed the forum. The anesthesia program also included round-table discussions.

Duke medical faculty speakers at Wednesday and Thursday medical sessions were Dr. Philip Handler, professor of biochemistry and nutrition; Dr. Jack D. Myers and Dr. R. Wayne Rundles, associate professors of medicine; Dr. Nicholson and Dr. Oscar Hansen-Pruss, professors of medicine; and Dr. Barnes Woodhall, professor of neurosurgery.

* * *

Three Duke University physicists are the authors of "Microwave Spectroscopy," the first book ever written in a new and fast growing branch of science.

The development of microwave spectroscopy has taken place almost entirely since World War II, and the Duke Microwave and Radiofrequency Laboratory has played a pioneer role in the emergence of this new field.

The new book provides up-to-date theory, experimental techniques, and applications of the latest methods in investigating molecular structures, effects of nuclei on molecular spectra and for study of nuclear spins and moments.

Authors are Dr. Walter Gordy, professor of physics and director of the Microwave and Radiofrequency Laboratory at Duke, and two former research associates, Dr. William V. Smith and Dr. Ralph Trambarulo. Dr. Smith has recently joined the faculty of the University of Delaware and Dr. Trambarulo the staff of Pennsylvania State College.

* * *

Almost $500,000 in March of Dimes grants have enabled Duke scientists to carry on the fight against polio during the last 15 years.

In a joint announcement of a new $24,560 grant, Duke President Hollis Edens and Basil O'Connor, president of the National Foundation for Infantile Paralysis, revealed that NFIP has appropriated $498,541 for research and professional education at Duke since 1938.

The new grant will be used to continue production of teaching films, under the direction of Dr. Joseph E. Markee, chairman of the Anatomy Department at Duke and a pioneer in the field of visual aids in education.

Some of the films will include modified animated drawings and models to illustrate the attachment of muscles to bones and joints and their relation to joint movements. Certain muscle movements, such as in the foot, will be depicted by photographing the moving image as it appears on a fluoroscopic screen.

Board of Medical Examiners of the State of North Carolina

The Board of Medical Examiners will meet August 1, 1953, at Blowing Rock, North Carolina, at which time applicants for licensure by endorsement of credentials will be interviewed.

North Carolina Heart Association

The North Carolina Heart Association announces the availability of a new publication of particular interest to general practitioners, cardiologists, medical students, and interns throughout the state. This is a completely revised and greatly expanded edition of a unique medical handbook, "Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Blood Vessels," which has been prepared by the New York Heart Association and is now being distributed by the American Heart Association and its affiliates.

The illustrated handbook is intended primarily to clarify and standardize the language used by the medical profession in diagnosing cardiovascular diseases. By enabling physicians to record their findings more precisely, it assists them in communicating vital information to other physicians or to hospital or clinic personnel who cooperate in the management of the patient.

"Nomenclature and Criteria," which was first published in 1929, has come to be accepted as the standard work in its field. For the first time the handbook includes a section on diseases of the peripheral vessels. Extensive revisions have been made and new material added to the sections on x-ray and electrocardiography to conform with recent advances. The criteria for the diagnosis of rheumatic fever, an important cause of heart disease, have been amplified and made more exacting, and the criteria for diagnosis of congenital abnormalities have been expanded.

The new edition also contains a revised Chart on Functional Capacity and Therapeutic Classification to help the physician prescribe the amount of physical activity he feels the patient may perform.

"Nomenclature and Criteria" may be purchased through heart associations or book stores at $4.95 a copy. For additional information write to the North Carolina Heart Association, Miller Hall, Chapel Hill, North Carolina.

Durham-Orange County Medical Society

The regular bi-monthly meeting of the Durham–Orange County Medical Society was held Wednesday night, June 10, at the Hope Valley Country Club in Durham.

Dinner preceded the program. John Anderson, Raleigh attorney who serves as legal counsel for the State Medical Society, was the speaker. He discussed bills of medical interest which were presented to the 1953 General Assembly. A business meeting followed Mr. Anderson's talk. Dr. Fred Patterson of Chapel Hill, president, presided.

Edgecombe-Nash Medical Society

The Edgecombe-Nash Medical Society held its regular monthly meeting in Rocky Mount, June 10. Dr. C. W. Bailey, in charge of the scientific program, presented as speaker, Dr. Banks Anderson, professor of ophthalmology at Duke University.

News Notes

Dr. Clarence M. McMurray has announced the opening of offices for the practice of internal medicine in the Professional Building, Shelby.

* * *

Dr. A. J. Tannenbaum, diplomate American Board of Internal Medicine, has announced the association of Dr. Benjamin Vatz in the practice of internal medicine, at their new offices, 1001 North Elm Street, Greensboro.

American Medical Association

The House of Delegates of the American Medical Association, in session at the Waldorf-Astoria Hotel during the One Hundred and Second Annual Meeting of the A.M.A. in New York City, took important policy actions on veterans' medical care, medical ethics, osteopathy, intern training, and a wide variety of subjects ranging from medical education to public relations.

The House also named Dr. Walter B. Martin of Norfolk, Virginia, as president-elect of the American Medical Association for the coming year. Dr. Martin will become president at the June, 1954, meeting in San Francisco, succeeding Dr. Edward J. McCormick of Toledo, Ohio, who took office at a special inaugural session of the House of Delegates in the Hotel Commodore during the New York meeting.

Giving unanimous approval to a recommendation from its Reference Committee on Insurance and Medical Service, submitted as a substitute for eight different resolutions concerning the treatment of non-service-connected disabilities by the Veterans Administration, the House adopted the policy that such treatment should be discontinued except in cases involving tuberculosis or psychiatric or neurological disorders.

In taking this action, the House reaffirmed and adopted the recommendation originally presented at the Denver Meeting last December by the Special Committee on Federal Medical Services.

The reference committee report adopted by the House expressed complete accord with the present program of hospital and medical care for veterans with service-connected disabilities, and also included this statement:

"It is the belief of your committee that the medical profession must concern itself, not with the numbers of 'chiselers' in Veterans Administration hospitals nor with the efficacy of the Veterans Administration in the administration of enabling legislation, but rather with the broad question of whether such legislation is sound, whether the federal government should continue to engage in a gigantic medical care program in competition with private medical institutions and whether the ever-increasing cost of such a program is a proper burden to impose on the taxpayers of the country. A consideration of this problem must of course be predicated upon a concern for the health of the entire population and not just a particular segment."

Eleven resolutions dealing with publicity regarding unethical conduct of physicians were brought before the House as a result of recent newspaper and magazine articles reporting statements attributed to an official spokesman of an allied medical organization. The House adopted a committee report which recommended no action on the 11 resolutions, but which reaffirmed the supremacy of the A.M.A. code of ethics and urged that the Judicial Council study suggested revisions concerning methods of billing.

The report also urged that the American Medical Association continue to inform its members and the public of its stand on matters pertaining to abuses and evils in the practice of medicine.

Most controversial issue brought before the House at the New York meeting proved to be the question of immediate or deferred action on the report of the Committee for the Study of Relations Between Osteopathy and Medicine. The House, after two hours of vigorous, spirited debate, adopted the majority report of the Reference Committee on Miscellaneous Business, postponing action until the June, 1954, meeting and allowing further study by the delegates and the state associations.

Five resolutions came before the House with regard to the Essentials of an Approved Internship, which were adopted at the December, 1952, meeting. The Reference Committee on Medical Education and Hospitals recommended a substitute resolution which was adopted by the House after considerable discussion. The action abolishes the rule whereby approval may be withdrawn from an internship program which for two consecutive years fails to obtain at least two-thirds of its slated complement of interns. The resolution also calls for further study of the Essentials by a committee appointed by the Speaker of the House, at least half of whom are doctors in private practice not connected with medical schools or affiliated hospitals.

Highlights of the opening day session of the House were addresses by Dr. Louis H. Bauer, who delivered his term-end report as retiring president; Dr. Edward J. McCormick, who spoke on that day as president-elect, and Mrs. Oveta Culp Hobby, United States Secretary of Health, Education and Welfare, and selection of the winner of the 1953 Distinguished Service Award.

The 1953 Distinguished Service Award was voted to Dr. Alfred Blalock of Baltimore for his outstanding work in vascular surgery and his part in the development of the so-called "blue baby" operation. Dr. Blalock, chief surgeon at Johns Hopkins Hospital and professor of surgery at Johns Hopkins University School of Medicine, received the award during ceremonies preceding the presidential inauguration Thursday night, June 2.

In addition to the selection of Dr. Martin as president-elect, the House also elected Dr. Carl H. Gellenthien of Valmora, New Mexico, to the office of vice president. He succeeds Dr. Leo F. Schiff of Plattsburgh, New York.

Re-elected to office were:

Dr. George F. Lull, Chicago, secretary and general manager; Dr. J. J. Moore, Chicago, treasurer; Dr. James R. Reuling, Bayside, New York, speaker of the House of Delegates; Dr. E. Vincent Askey, Los Angeles, vice speaker of the House; Dr. Edwin S. Hamilton, Kankakee, Illinois, and Dr. Gunnar Gundersen, LaCrosse, Wisconsin, as member of the Board of Trustees.

The House elected Dr. Julian P. Price of Florence, South Carolina, to fill Dr. Martin's unexpired term on the Board of Trustees.

American College of Chest Physicians

The nineteenth annual meeting of the American College of Chest Physicians, held at the Hotel New Yorker, New York City, May 28-31, surpassed all previous College records for attendance at both the scientific sessions and social functions. Approximately 1,500 registered, including 1,200 members and guest physicians, and 300 non-physician guests.

The following officers were elected for the year 1953-1954:

President, Alvis E. Greer, Houston, Texas; President-Elect, William A. Hudson, Detroit, Michigan; First Vice President, James H. Stygall, Indianapolis, Indiana; Second Vice President, Herman J. Moersch, Rochester, Minnesota; Treasurer, Charles K. Petter, Waukegan, Illinois; Assistant Treasurer, Albert H. Andrews, Jr., Chicago, Illinois; Chairman, Board of Regents, Donald R. McKay, Buffalo, New York; Historian, Carl C. Aven, Atlanta, Georgia.

Dr. George Curtis Crump, Asheville, was re-elected Governor of the College for North Carolina.

The next annual meeting will be held in San Francisco, California, June 17-20, 1954.

Oak Ridge Institute of Nuclear Studies

The Special Training Division of the Oak Ridge Institute of Nuclear Studies has scheduled an advanced course covering the clinical applications of radioisotopes to be held from September 14-25, 1953. This advanced course, part of the continuing series offered by the Institute, is the second to be concerned with the medical uses of isotopes. The first was given in March, 1951.

Participation will be limited essentially to those physicians who have had clinical experience with radioisotopes.

Subjects to be discussed in the course include tumor localization, circulatory volumes and outputs, fluid and electrolyte spaces, therapy of blood diseases, theory of radiation dosimetry, radioactivity measurement, gold-198 and other colloids, interstitial and surface applications, teletherapy, iodine-131 in diagnosis and therapy, and external counting.

The course will consist of lectures, clinics, and exhibits of equipment. Speakers have been selected from among the leaders in the specific fields of interest.

Additional information and application blanks may be obtained from the Special Training Division of the Institute, P. O. Box 117, Oak Ridge, Tennessee.

(BULLETIN BOARD CONTINUED ON PAGE 300)

New Lilly Products

New additions to the product list of Eli Lilly and Company are Ampoules Distreptocin Sulfate. Ampoules No. 651 contain 1 Gm. and Ampoules No. 655, 5 Gm.

Distreptocin is a mixture of equal parts of streptomycin and dihydrostreptomycin base, as the sulfates. It appears to have a distinct advantage over either streptomycin or dihydrostreptomycin alone, because the incidence of damage to the vestibular or auditory branch of the eighth cranial nerve is much less. As with streptomycin and dihydrostreptomycin, vestibular and auditory dysfunctions bear a relationship to dosage and duration of treatment; sufficiently large doses of Distreptocin given over a prolonged period may produce the nerve damage mentioned.

The drug is packaged in the dry form and should be reconstituted for use with Water for Injection, U.S.P., a sterile isotonic saline solution, or some other suitable solvent.

Indications are identical to those of either of the individual components and include the following: urinary tract infections due to gram-negative organisms sensitive to streptomycin; gonorrhea which does not respond to penicillin therapy; tularemia; *Hemophilus influenzae* meningitis and pulmonary infections; wound infections due to streptomycin-sensitive organisms (applied topically); granuloma inguinale; chancroid infections due to *Hemophilus ducreyi* that do not respond to sulfonamide therapy, and tuberculosis (in combination with PAS).

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Catalog on Application

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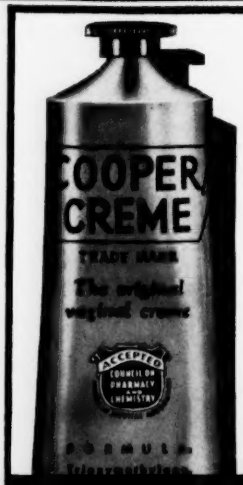
MONDAY, SEPTEMBER 28, and
TUESDAY, SEPTEMBER 29, 1953

SPEAKERS

Richard B. Cattell, M.D.	Boston, Mass.
George Crile, Jr., M.D.	Cleveland, Ohio
Charles W. Mayo, M.D.	Rochester, Minn.
Richard W. TeLinde, M.D.	Baltimore, Md.
Philip Thorek, M.D.	Chicago, Ill.
Paul D. White, M.D.	Boston, Mass.
Paul Holbrook, M.D.	Tucson, Ariz.
Robert B. Lawson, M.D.	Winston-Salem, N. C.
John B. Youmans, M.D.	Nashville, Tennessee
John R. Heller, M.D.	Bethesda, Md.
V. P. Sydenstricker, M.D.	Augusta, Ga.
H. Earle Conwell, M.D.	Birmingham, Ala.
Mr. Leo Brown	A. M. A.

Requests for hotel reservations should be addressed to Chattanoogans, Inc., 809 Broad Street, Chattanooga 2, Tennessee.

For further information write: Tennessee Valley Medical Assembly, 612 Medical Arts Building, Chattanooga 3, Tennessee.



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BOOK REVIEWS

Twenty-Five Years of Sex Research of the National Research Council Committee for Research in Problems of Sex, 1922-1947. By Sophie D. Aberle, Member of the National Science Board of the National Science Foundation; and George W. Corner, Carnegie Institute of Washington. 248 pages. Price, $4.00. Philadelphia and London: W. B. Saunders Company, 1953.

This little book is devoted to a history of the Committee for Research in Problems of Sex from its organization in 1922 to 1947. Its long experience in promoting research in one particular field makes it a model for other committees to follow. Problems of organization, obtaining and using grants, and publishing reports of investigations are fully discussed. More than 100 pages of the book are devoted to a bibliography.

The book would be of value chiefly to those connected with similar committees for research.

How to Prepare for Marriage. By John Douglas, M.D., and Elizabeth Hardy, R.N. 135 pages. Price, $2.50. 130 West 42nd Street, New York 36, N. Y.: Pageant Press, 1952.

Many books have been published upon the general theme of marriage and the adjustments which a young couple must or should make. If a better one has been written than this little volume, it has escaped the attention of this reviewer. The physician collaborator in the book rather modestly hides behind the pseudonym of John Douglas, M.D. Evidently, however, he has had many years of experience in counseling young couples, and his experience is summarized in the 16 chapters of the book. It can be heartily recommended as a very sensible and helpful book of advice for the prospective bride and groom.

Pheochromocytoma and the General Practitioner. By Joseph L. DeCourcy, M.D., and Cornelius B. DeCourcy, M.D. 165 pages. Cincinnati, Ohio: DeCourcy Clinic, 1952.

This little book summarizes quite well our present knowledge of pheochromocytoma, and gives detailed directions for establishing a diagnosis by a Regitine test. The clinical picture is also given so clearly that one who reads the book should know when to suspect this condition in patients who have hypertension. The chapter on surgical considerations would be of interest chiefly to surgeons.

An extensive bibliography of 361 references is given for those who would be interested in a detailed study of this condition.

BOOKS RECEIVED

Surgery of the Pancreas. By Richard B. Cattell, M.D., Surgeon, The Lahey Clinic, New England Baptist Hospital, New England Deaconess Hospital; and Kenneth W. Warren, M.D., Surgeon, The Lahey Clinic, New England Baptist Hospital. 374 pages, with 100 figures. Price, $10.00. Philadelphia and London: W. B. Saunders Company, 1953.

The Surgery of Infancy and Childhood. Its Principles and Techniques. By Robert E. Gross, M.D., D.Sc., William E. Ladd, Professor of Children's Surgery, The Harvard Medical School, and Chief of Surgical Service, The Children's Hospital, Boston. 1,000 pages, with 1,488 illustrations. Price, $16.00. Philadelphia and London: W. B. Saunders Company, 1953.

The Physician in Atomic Defense. Atomic Principles, Biologic Reaction and Organization for Medical Defense. By Thad P. Scars, M.D., F.A.C.P. With a Foreword by James J. Waring, M.D., M.A.C.P. 308 pages. Price, $6.00. Chicago: The Year Book Publishers, 1953.

Classified Advertisements

INTERNIST, 37, draft priority IV, graduate of University of Virginia, board certified, would like association with individual or group. Reply O-CB, Box 790, Raleigh, North Carolina.

BOARD QUALIFIED INTERNIST, thirty-four, veteran, Mayo Clinic trained desires location; associate or private practice. Address reply to O-JJC, Box 790, Raleigh, North Carolina.

FOR SALE: American Electric (Keleket) ENT X-ray unit, complete accessories. Very simple and economical to operate. Condition like new. Attractive price. Address reply to Dr. E. W. Larkin, Jr., P. O. Box 706, Greenville, N. C.

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BULLETIN BOARD

(CONTINUED FROM PAGE 297)

AMERICAN COLLEGE OF SURGEONS

For the first time since 1914, when a clinical congress was held in London, England, that city will be host to a sectional meeting of the American College of Surgeons on May 17 to 19, 1954. This meeting, held at the invitation of leading surgeons of England, many of them honorary fellows of the American College of Surgeons, is arousing wide interest, and it is anticipated that more than 500 surgeons from Canada and the United States will attend. All ethical members of the profession are invited to participate in a program which, from all indications, will add another distinguished chapter to College history.

To make this event even more auspicious as well as useful, the Association of Surgeons of Great Britain and Ireland will hold its meeting immediately preceding these dates, in Leeds, May 13 to 15, and the International Society of Surgery in Paris plans special sessions immediately after the London meeting. Other European cities too are planning special features for interested surgeons from other countries.

Sir Cecil Wakeley, president of the Royal College of Surgeons of England, is honorary chairman of the Committee on Arrangements, and honorary secretary is Mr. A. Lawrence Abel, F.R.C.S., London. Sir William Stewart Duke-Elder, Hon. F.A.C.S., Sir Gordon Gordon-Taylor, Hon. F.A.C.S., Mr. Lambert C. Rogers, F.R.C.S., F.A.C.S., Cardiff, Galmorganshire, Wales, are members of the Committee on Arrangements.

To make this event even more valuable to visitors from Canada and the United States, special programs will be held on shipboard en route to the meeting.

Dr. H. Prather Saunders, associate director, American College of Surgeons, collaborating on the program with the London Committee on Arrangements, reports that our hosts of the Royal College of Surgeons are planning not only an imposing series of lectures, but also, some receptions to which the visiting surgeons are most cordially invited.

* * *

More than 11,000 surgeons, other physicians, and guests are expected to attend the thirty-ninth annual Clinical Congress of the American College of Surgeons, the nation's largest scientific meeting primarily concerned with surgery, to be held in Chicago, October 5 through 9, 1953.

Surgical techniques and new developments in surgery will be covered in this notable five-day meeting. The program will include formal scientific papers, panel discussions, symposia, postgraduate courses, surgical forums, medical motion pictures, cine' clinics, color television and exhibits. Headquarters will be The Conrad Hilton Hotel. Dr. Thomas C. Douglass, associate professor of surgery, Northwestern University and attending surgeon, Passavant Memorial Hospital, is chairman of the Chicago Committee on Arrangements.

Dr. Harold L. Foss, president of the American College of Surgeons for 1953, will preside at the opening evening session at which Dr. Fred W. Rankin, Lexington, Kentucky, will be installed as president for the year 1954. Dr. Evarts A. Graham, St. Louis, chairman of the Board of Regents, will introduce special guests, and Sir James Paterson Ross, London, England, will give the Eighth Martin Memorial Lecture, entitled "Science and Surgery."

Dr. Paul R. Hawley of Chicago is the Director of the American College of Surgeons.

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

The national birth total continued to rise during the first three months of 1953, after setting a new annual record of 3,889,000 registered and unregistered births in 1952, according to vital statistics estimates released recently by the Public Health Service of the Department of Health, Education, and Welfare.

Births during the first quarter of 1953 were running about 29,000 ahead of the same period last year, an increase of 3 per cent. March was the tenth consecutive month in which the estimated total births topped corresponding monthly figures for the previous year.

The level of births for the first three months is at an annual rate of 25 live births per 1,000 population. This is slightly higher than the birth rate for the first quarter of 1952.

Since the end of World War II, more children have been born every year than in any wartime or prewar year. From 2,858,000 of registered and unregistered live births estimated for 1945, the total soared to 3,817,000 in 1947. After dropping to a slightly lower level for the next three years, birth totals reached a new high in 1951 and broke the record again in 1952.

Based on registered births alone, 58,000 more couples had a first child in 1951 than in 1950, according to preliminary estimates. This 5 per cent increase in first-born children was largely a sequel to the marriage upswing that began in June, 1950, at the start of the Korean War. Births of second-born children increased by 2 per cent over 1950.

Births of third children increased by 9 per cent, and of fourth children by 13 per cent. These increases continue a steady rise that has been going on since the end of World War II.

Marriages dropped in the last half of 1951, so it is likely that fewer couples had their first child in 1952 than the previous year. But since total births went up, it probably meant a further rise in the births of second-born or later children during 1952.

* * *

The U. S. Public Health Service Hospital at Fort Stanton, New Mexico, has stopped admitting patients, the Public Health Service, Department of Health, Education, and Welfare, has announced. The hospital, a tuberculosis sanatorium, will be closed as soon as patients now being treated there are transferred to other Service hospitals.

VETERANS ADMINISTRATION

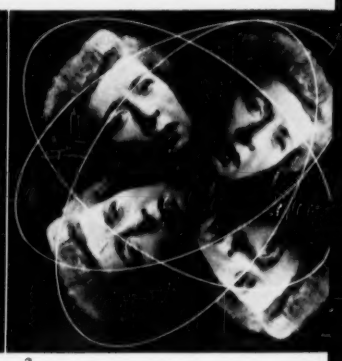
Veterans Administration announces the appointment of Dr. Wilton Monroe Fisher, of Atlanta, Georgia, formerly associate professor of public health and preventive medicine at Baylor University College of Medicine, as chief of the residency and internship section, research and education service, in the Central Office, Washington, D. C.

In his VA assignment, Dr. Fisher is charged with coordinating and supervising residency and internship programs in 83 VA hospitals where such programs have been approved. In these activities he deals directly with Deans Committees of cooperating medical schools in the establishment and conduct of training procedures.

The Deans Committees with which Dr. Fisher deals function in communities where medical schools and VA hospitals are located within convenient distance of one another. Through these committees the nation's Class-A medical schools are cooperating with VA hospitals to create and maintain maximum professional standards.

1. *Dizziness . . . movement is within the head.*
2. *Objective vertigo . . . the environment is in motion.*
3. *Subjective vertigo . . . the patient himself moves in space.*

2



3

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1. Simonton, K. M.: The Symptom of Dizziness, Arizona Med. 6:28 (Sept.) 1949.

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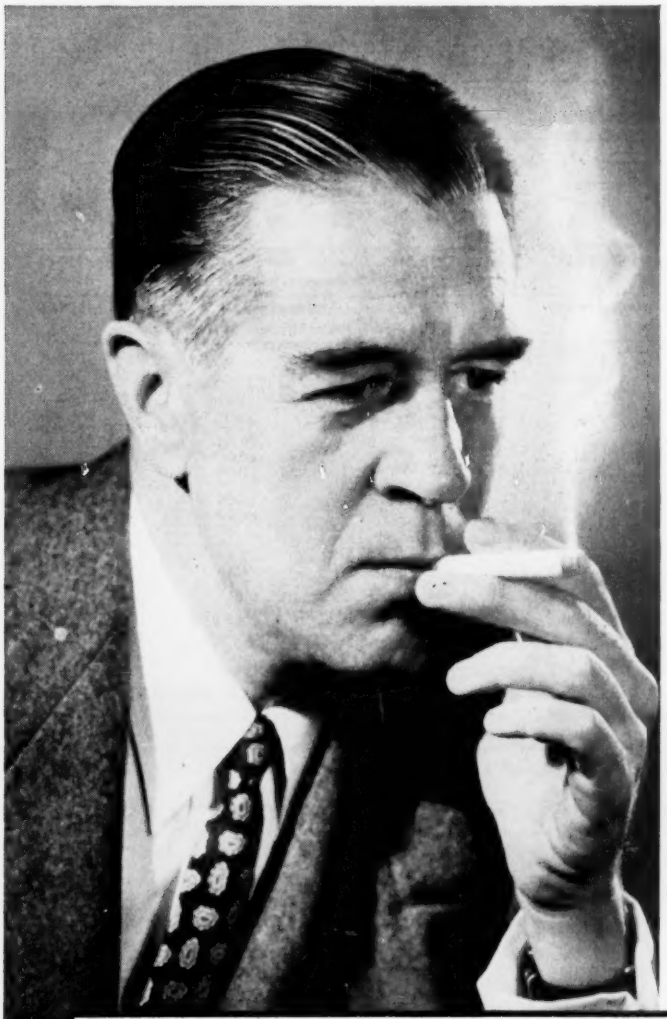

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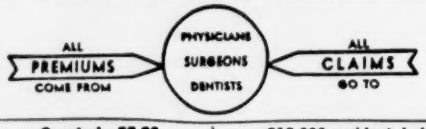

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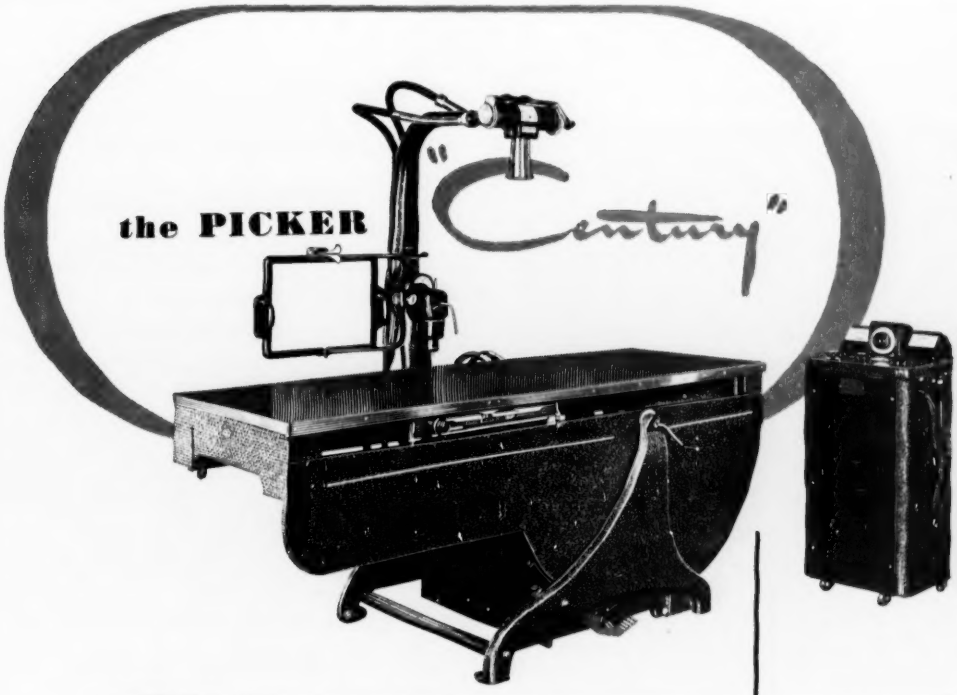

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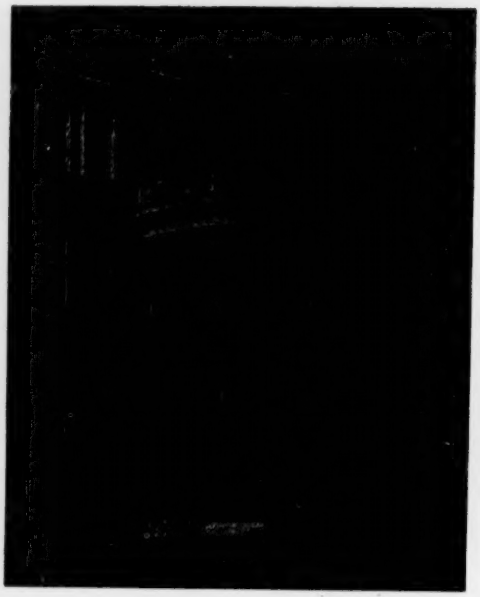

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1. Reich, W.J. et al. (1951), A Recent Advance in Estrogenic Therapy. I. Amer. J. Obst. & Gynec., 62:427, August. 2. Perloff, W.H. (1951), Treatment of the Menopause. II. Amer. J. Obst. & Gynec., 61:670, March. 3. Reich, W.J. et al. (1952), A Recent Advance in Estrogenic Therapy. II. Amer. J. Obst. & Gynec., 64:174, July.

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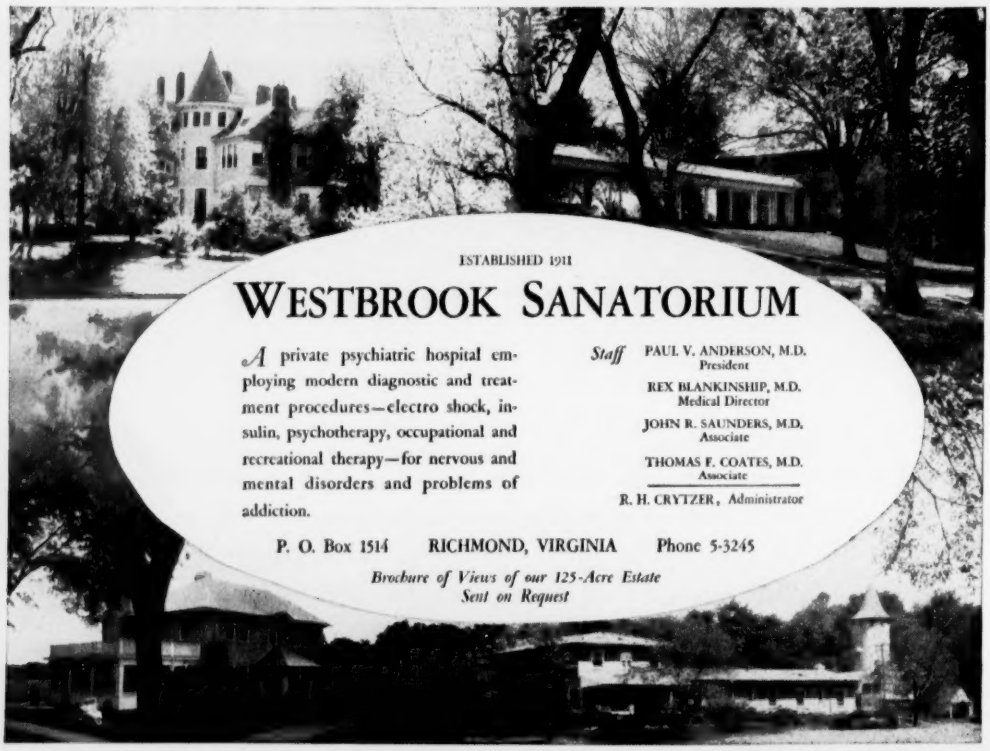

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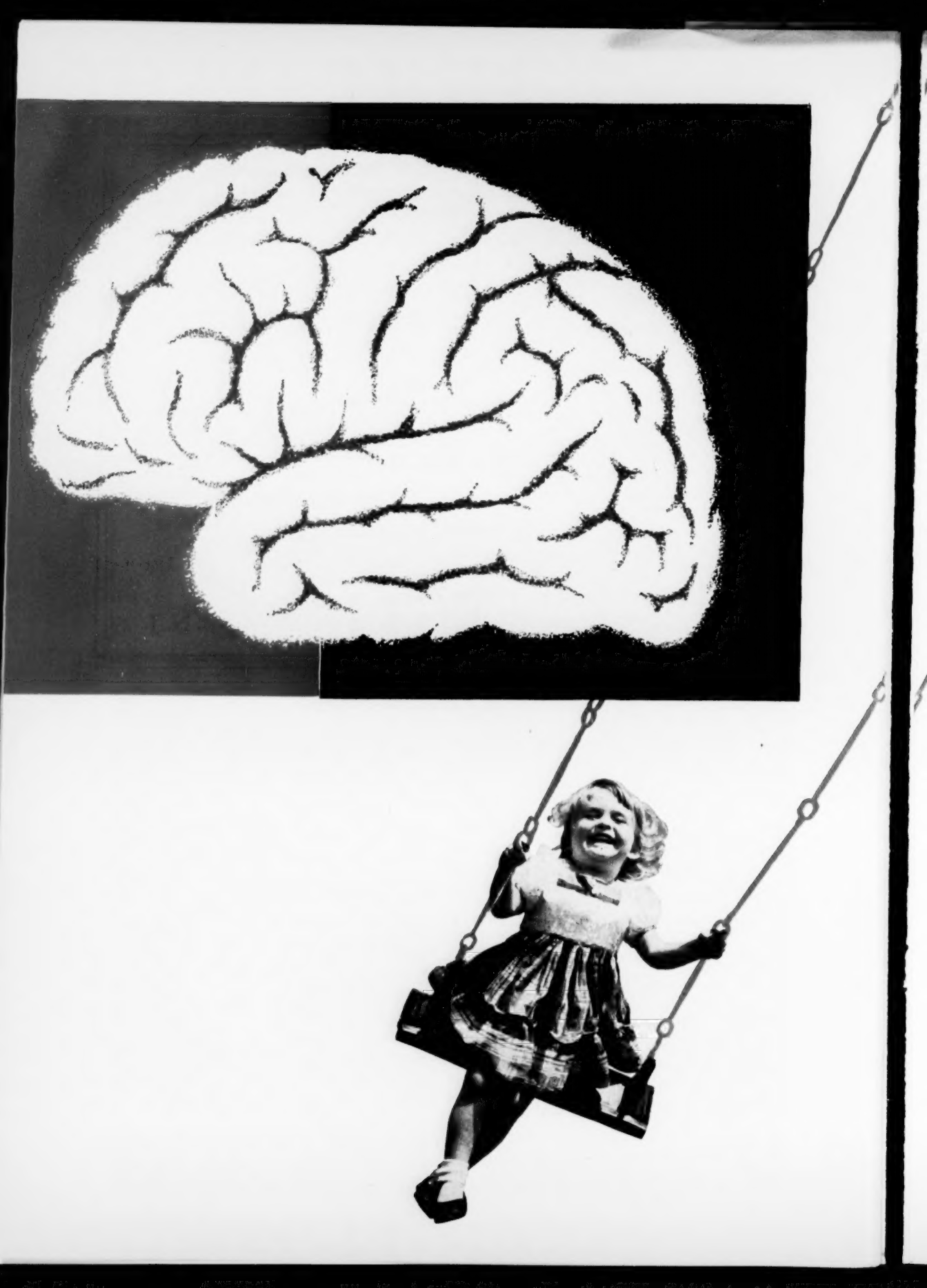

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(1) Krantz, J. C., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, Baltimore, The Williams & Wilkins Company, 1949 (Reprinted 1950), p. 318. (2) *ibid*, p. 315. (3) Carter, S.: Epilepsy, in Conn, H. F.: Current Therapy 1952, Philadelphia, W. B. Saunders Company, 1952, p. 612. (4) Salter, W. T.: A Textbook of Pharmacology, Philadelphia, W. B. Saunders Company, 1952, p. 231.

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The uncomplicated nutritional progress[1] of infants fed Lactum® speaks for its sound rationale. Lactum is Mead's liquid formula made from whole milk and Dextri-Maltose.®

It provides generous milk protein for sturdy growth and sound tissue structure, with sufficient calories to spare protein and meet the infant's energy needs.

Lactum is convenient and easy to prepare—simply mix equal parts of Lactum and water for a formula supplying 20 calories per fluid ounce.

1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.

Lactum

MEAD JOHNSON & COMPANY
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